

Figure 1. Construction of pSV.IPD Plasmid

Figure 2

psv.IPUR

length: 5147 (circular)

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1  TTTCGAGCTCG CCGACATTTG ATTATTGACT AGAGTCGATC GACAGCTGTG GAATGTGTGT CAGTTAGGGT GTGGAAGTC CCCAGGCTCC CCACAGAGATA
   AACCTCGAGC GGGCTGTAAC TAATAACTGA TCTCAGCTAG CTGTGACAC CTTACACAGA GTCAATCCCA CACCTTTTCAG GGGTCCGAGG GGTTCGTCCTT

101 GAAGTATGCA AAGCATGCAAT CTCAAATAGT CAGCAACCCAG GTGTGGAAG TCCTCCAGGCT CCCCAGCAGG CAGAACTATG CAAAGCATATG ATCTCAATTA
   CTTTCATACGT TTCTGACGTA GAGTTAATCA GTCTGTGGTC CACACCTTTC AGGGTCCGA GGGGTCTGTC GTCTTCATAC GTTTCGTACG TAGAGTTAAT

201 GTCAGCAACC ATAGTCCCGC CCCTAACTCC GCCCATCCCG CCCCTAACTC CGCCAGTTC CGCCCATTCCT CCGCCTCATG GCTGACTAAT TTTTTTTTATTT
   CAGTCGTTGG TATCAGGGCG GGGATTGAGG CCGGTAGGGC GGGATTGAG GCGGTCAAG GCGGTAAAG GCGGGGTAC CGACTGATTA AAAAAAATAA

301 TATGCAGAG CCGAGGCGCG CTCGGCTCT GAGCTATTCC AGAAGTAGTG AGGAGGCTTT TTTTCGAGGC TAGGCTTTTG CAAAAAGCTA GCTTATCCCG
   ATACGTCTCC GGCTCCGGCG GAGCGGAGA CTCGATAAGG TCTTCATCAC TCCTCCGAAA AAACCTCCGG ATCCGAAAAC GTTTTTCGAT CCANTAGGCC

401 CCGGGAACGG TGCATTGGAA CGCGGATTCC CCGTGCCAAG AGTGACGTAA GTACCGGCTTA TAGAGCGACT AGTCCACCAT GACCGACTAC AATCCACAGG
   GGCCTTGGC ACCTAACCTT CGCCTAAGG GGCACGGTTC TCACTGCAT CATGGCGGAT ATCTCGCTGA TCATCTGGTA CTGGCTCATG TTTTCGATTA

501 TCGGCTCGC CACCGCGGAC GACGTCCCGC GGGCGGTAG CACCTCGCC CGCGGTTTC CGGACTACCC CGCCACGGC CACACCTTCG AATAAGATTT
   ACGCGGAGG GTGGGCGCTG CTGCAGGGG CCGGCGATGC GTGGAGGG GTGGATGGG GCGTGCAGC GTGTGCAGC TGCGCTTCAG TCGGCTTCAG

601 CCACATCGAG CCGGTACCG AGCTTCCTC ACTCTCTCTC ACGCGCTCG GGTTCGACAT CGGAAGGTG TGGTTCGGG ACGACGGGG GCGGTTCGGG
   GGTGTAGTTC GCCAGTGGC TCGACGTTCT TGAGAAGGAG TCGCGCGAGC CCGAGCTGTA GCGCTTCAC ACCAGCGCC TGCTCCCGG GCGTTCAGG

701 GTCTGGACCA CCGCGGAGAG CGTCGAAGC GGGCGGTGT TCGCCGAGAT CGGCCCGCG ATGCCCGAGT TGAGCGGTTT CCGGCTGGCC GCGACGTAAC
   CAGACCTGGT CGGCCTCTC GCAGTTGCG CCGCGCTCA AGCGGCTTA GCGGGCGCG TACCGGCTCA ACTCCCAAG GCGCGACCG CCGCTCTGTTG

801 AGATGGAAG CTCCTTGGG CCGCACCGGC CCAAGAGCC CGCTGTGTT CTCGGCCACG TCGCGCTCTC GCGGCAAGG CAGGCAAGG GTTTCGGCAG
   TCTACCTTCC GGAGGACCG GCGGTGGCG GGTTCCTCGG GCGCACCAAG GACCGGTGGC AGCGGCAGAG CCGGCTGGTG GTCCCTTCC CAGACGCTTC

901 CCGCGTCTG CTCCTCGGAG TGGAGCGGC CGAGCGCGC GGGTGCCCG CTTCTCTGA GACTCCCG CCGCGAACC TCCCTTCTA CCGAGGCTTC
   CGGCGAGCAC GAGGGGCTC ACCTCCGCG GCTCGCGCG CCCCACGGC GGAAGGACT CTGAGGGCG CCGGCTTGG AGGGAAAGAT GCTCCGCGAG

1001 GGTTCACCG TCACCGCGCA CGTCAGTGC CCGAGGACC GCGGACCTG GTGCATGACC CGCAAGCCCG GTGCTGAGT TAACCTCTCC GTCCTTAAG
   CCGAAGTGC AGTGGCGGCT GCAGTCAAG GGTCTCTG GCGCTGGAC CAGTACTGG GCGTTCGGC CACGACTCA ATTGAGGAG GAGGATTTG

1101 CTATGCAATT TTATAAGACC ATGGACTTT TGCTGGCTTT AGATCCCTT GGTTCGTTA GACGCGAGCT ACAATTAATA CATACCTTA TCTATCATAC
   GATACGTAAA AATATTCTGG TACCTGAAA ACGACCGAAA TCTAGGGAA CCGAAGCAAT GTTCGCTGA TGTTAATTAAT GTATTGGAAT ACATAGTATG

1201 ACATACGATT TAGGTGACAC TATAGATAAC ATCCACTTT CTTTCTCTC CACAGGTCTC CACTCCCG CACTCCCGG TCCAACTGCA CTTCTCTCT ATGATTTAA
   TGTATGCTAA ATCCACTGT ATATCTATTG TAGTGAAAC GGAAGAGAG GTGTCCACAG GTGAGGTTC AGGTTGACGT GGAGCAAGA TAGCTTAATTT

1301 TTCCCCGGG ATCTCTAGA GTCACCTGC AGAAGTTTC ATGCCGCCA TGGCCCAACT TGTTTATTTC AGCTTATAAT GGTACAAAT AAGGAAATAG
   AAGGGCCCC TAGGATCTC CAGCTGGAG TCTTCCAAG TACCGGGGT ACCGGTTGA ACAAATAAC TCGAATATTA CCAATCTTTA TTCTCTTATC

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Figure 2-1

1401 CATCACAAAT TTACAAAATA AAGCATTTTTT TTCACGTGCAT TCTAGTTGTG GTTTGTCCAA ACTCATCAAT GTATCTTATC ATGTCTGCAT CCAATCGAAA
GTAGTGTTTA AAGTGTTTTAT TTCTGTAATAA AAGTGACGTA AGATCAACAC CAACACAGGT TTGAGTAGTTA CATAGATAG TACAGACCTA CTTAGCCCTT

1501 TTAATTCGGC GCAGCACCAT GGCCTGAAAT AACCTCTGAA AGAGGAAGTT GGTAGGTAC CTTCGAGGC GGAAGAACC AGCTGTGGAA TGTGTGTAG
AATTAAGCG CGTCTGGTA CCGGACTTTA TTGGAGACTT TCTCCTTCAA CCAATCCATG GAAGACTCCG CCTTCTTGG TCGACACCTT ACACACAGTC

1601 TTAGGGTGTG GAAAGTCCCC AGGCTCCCC GCAGGCAGAA GTATGCRAAG CATGCATCTC AATAGTCAG CAACAGGTG TGGAAAGTCC CCAAGCTCCG
AATCCACAC CTTTCAGGG TCCGAGGGT CGTCCGTCTT CATACGTTTC GTACGTAGAG TTAATCAGTC GTTGTCCAC ACCTTTCAGG GCTCCGAGCG

1701 CACGAGGCAG AAGTATGCAA AGCATGCATC TCAATTAGTC AGCAACCATTA GTCCCGCCCC TAACCTCCGC CATCCCGCC CTAACTCCGC CCACTCTCAG
GTCTCCGTC TTCATACGTT TCGTAGCTAG AGTTAATCAG TCGTTGTAT CAGGCGGGG AATCAGGGG GTAGGCGGG GATTGAGCG GGTCAAGCGG

1801 CCAATCTCCG CCCATGGCT GACTAATTTT TTTTATTAT GCAGAGGCG AGCGCGCTC GGCTCTGAG CTATTCAGA AGTACTCAGG AGCTTTTTT
GGTAAGAGC GGGTACCGA CTGATTAAA AATAAATA CGTCTCCGC TCCGCGGG CCGGAGACTC GATAAGTCT TCATCACTCC TCCGAAAAA

1901 GGAGGCCTAG GCTTTTGCAA AAGCTGTTA CCTGAGCG CCGCTTAAT AAGCGCGCC ATTTAAATCC TGCAGTAA AGCTTGGCAG TGGCGTCTGT
CCTCCGATC CGAAACGTT TTTCGACAAT GGAGCTGCC GCGAATTA TTCCGCGCGG TAAATTTAGG AGTCCATTG TCGAACCTG ACUGGCACCA

2001 TTTACAACT CGTACTGGG AAACCTCTG CTTTACCCAA CTTAATCCG TTCAGACACA TCCCCCTTC GCCAGTGC GTAAATAGCA AGAGGCCCG
AATGTTGCA GCACTGACC TTTTGGACC GCAATGGTT GAATTAGCG AACCTCTGT AGGGGGAG CCGTCCACG CATTTCTCTT TCTCCGCGG

2101 ACGATCGC CTTCCCAACA GTTGGTAGC CTGAATGGC AATGGCGCT GATGCGGTAT TTTCTCTCTA CGCATCTGT CCGTATTTCA CACCGCATAC
TGGCTAGCG GAAGGTTGT CAACGCATC GACTTACCG GACTTACCGA CTACGCCATA AAAGAGGAAT GCGTAGACAC GCCATAAAGT GTGGCGTATG

2201 GTCAAAGCAA CATAGTACG CGCCTGTAG CCGCGATTA AGCGCGCG GTGTGTGTGT TACGCGCAG GTGACGCTA CACTTGCAG CACCTTACCG
CAGTTCTGTT GGTATCATC GCGGACATC GCCGCTPAT TCGCGCCGC CACACCACA AUGCCTGCT CACTGCGAT GTGAACGCT GCGGATCGG

2301 CCGCTCCTT TCGCTTCTT CCTTCTCTT CTGCGCAGT TCGCGCGCT TCCCGTCAA GCTCTAAATC GGGGCTCC TTTAGGCTC CCAATTTAGT
GGCGGAGAA AGCAAGAA GGAAGGAA GAGCGTGCA AGCGCGCA AGGGCAGT CGAGATTTAG CCCCAGGG AATCCCAAG GCTAAATCAC

2401 CTTTACGCA CTTGACCCC AAAAAGTTG ATTTGGTGA TGGTTCAGT AGTGGGCGT CGCCTGATA GACGTTTTT CGCCCTTGA CTTTGGAGTC
GAAATGCCG TGAGCTGGG TTTTGTGAAC TAAACCACT ACCAAGTCA TCACCGGTA GCGGACTAT CTGCCAAAA GCGGAAACT GCAACCTCAG

2501 CAGCTTCTT AATAGTGGAC TCTTGTCCA AACTGGAACA AACTCAAC CTATCTCGG CTATTCTTTT GATTTATAAG GATTTTGGC GATTTTGGC
GTCAAGAA TTATCACCTG AGAACAAGT TTGACCTGT TGTAGTTGG GATAGAGCC GATAAGAAA CTAATATTC CTAACACCG CTAAGGCCG

2601 TATTGGTTAA AAATGAGCT GATTTAACAA AAATTTAAC CGAATTTTAA CAAATATTA ACCTTTTACAA TTTTATGCT CACTCTCAGT ACAATCTCT
ATAACCAAT TTTTACTCGA CTAATTTGTT TTTAATGCT GCTTAAAT GCTTTATAT GTCCAAATGTT AAAATACCAC GTGAGAGTCA TGTTAGACAA

2701 CTGATGCCG ATAGTTAAG CAACTCCGT ATCGTACGT GACTGGTCA TGGCTCGCC CCGACACCC CCAACACCC GTGACGCGC CTGACGCT
GACTACGGG TATCAATTG GTTAGGCGA TAGCATGCA CTGACCCAGT ACCGACCGG GGTGTGGG GACTCGCGG GACTCGCGA

2801 TGTCTGTC CCGCATCCG TTACAGACAA GCTGTACCG TCTCCGGAG CTGCATGCT CAGAGTTTTT CACCTCATC ACGGAAAGC GGTAGAGCT
ACAGACGAG GCGTAGGCG AATGCTGTT CGACACTGG AGAGCCCTC GAGGTACACA GTCTCCAAA GTGGCAGTAG TGGCTTTGG CACTCCCTCA

2901 ATTCTTGAAG ACGAAAGGC CTCGTGATC GCCTATTTT ATAGTTAAT GTCATGATA TAAATGGTTTT TTAGAGCTT TTAGAGAAA
TAAGAATTC TGCTTCCG GAGCACTAT CGGATAAAA TATCCAATTA CAGTACTAT ATTACCAAG AATCTGCAGT CCACCTGAA AAGCCCTTT

3001 TGTGCGCGA ACCCTATTT GTTTATTTTT CTAATACAT TCAATATGT ATCCGCTCAT CCGGATAA CCGGATAA ATATTGAAAA

Figure 2-2

ACACGGCGCT TGGGATATAA CAAATAAAAA GATTATGTA ACTTTATACA TAGCGAGTA CTCTCTTATTT GGGACTATTTT ACCAAGTTAT TATAACTTTT
 3101 AGGAAGAGTA TGAGTATTCA ACATTTCCGT GTCGCCCTTA TTCCCTTTTTT TGGCGCATTTT TGGCTTCCCTG TTTTTCCTCA CCCAGAAAGG CTGCTGAAG
 TCCTTCTCAT ACTCATAAGT TGTAAAGGCA CAGCGGAAT AAGGAAAAA ACCCGTAAA ACCTGTAAC GGGTCTTTTC GAGCACTTTTC
 3201 TAAAAGATGC TGAAGATCAG TTGGGTGCAC GAGTGGGTTA CATCGAAGT GATCTCAACA GCGTAAAGAT CCTTGAGAGT TTTGGCCCCG AAGAAGGTTT
 ATTTTCTAGC ACTTCTAGTC AACCCACGTG CTCACCAAT GTAGCTTGAC CTAGAGTTGT CGCCATTCTA GGAATCTCTA AAAGCGGGGC TTCTTTGAAA
 3301 TCCAATGATG AGCACTTTTA AAGTTCTGCT ATGTGGCGCG GTATTATCCC GTGATGACCG CGGCAAGAG CAACTCGGTC GCGCATACA CTATTCTCAG
 AGGTTACTAC TCGTGAAAAT TTCAAGACGA TACACCGCG CATAATAGG CACTACTCGG GCGCTTCTC GTTGAAGGAG GCGGTATGT GATAAGACTTC
 3401 AATCAGTGG TTGAGTACTC ACCAGTACCA GAAAGCATC TTACGGATGG CATGACAGTA AGAGAAATAT GCAGTCTCTC CATAAGCATG ACTCATACA
 TTACTGAACC AACTCATGAG TGGTCAGTGT CTTTTCGTAG AATGCCTACC GTACTGTCTAT TCTCTTAATA CGTCAGGAG GTATTCTGATG TCACTATTTT
 3501 CTGCGGCCAA CTTACTTCTG ACAAGCATG GAGGACGAA GGAGCTAAC GCTTTTTTTC ACACATGGG GGAATCATTA ACTCGCTTTC ATCGTTGATA
 GAGCGCGGTT GAATGAAGAC TGTGCTAGC CTCTGGCTT COTCGATTGG CGAAAAAAC TGTGTACCC CCTACTACAT TCAGCGGAGC TAGCAACCTT
 3601 ACCGGAGCTG AATGAAGCCA TACCAACGA CGAGGTGAC ACCAGATGC CAGCAGCAAT GGCACAACAG TTTCCGAAAC TATTAACTGG GAACTATTT
 TGGCCTCGAC TTACTTCGGT ATGTTTGCT GCTCGACTG TGGTGCTACG GTCTCGTTA CCGTGTGTC AACGCTTTC ATAAATTGACC GCTTGATGAA
 3701 ACTCTAGCTT CCGGCAACA ATTATAGAC TGGATGAGG CCGATAAAGT TGCAGGACCA CTCTCGGCT CCGCTCTTC GGTGGCTGG TTTTATTTCTG
 TGAGATCGAA GGGCGTTGT TAATTATCTG ACCTACCTCC GCCTATTCA ACCTCTGCT GAAGACGGA GCGGGAAGG CCGACGACC AAATAACGAC
 3801 ATAAATCTGG AGCGGTGAG CGTGGTCTC GCGGTATCAT TGCAGCACTG GGCACAGAT GTAGCCCTTC CCGTATCGTA GTTATCTACA CACAGGAGAG
 TATTTAGACC TCGGCCACTC GCACCCAGAG CGCCATAGTA AGTCTGTAC CCGGTCTAC CATTCGGGAG GGCATAGCAT CAATAGATGT GCTGAGTCT
 3901 TCAGGCAACT ATGGATGAAC GAAATAGACA GATCGCTGAG ATAGTGCTT CACTGATTAA GCATTTGTAA CTCTCAGACC AAGTTTACTC ATATATATTT
 AGTCCGTTGA TACTACTTG CTTTATCTGT CTAGGACTC TATCCACGGA GTCACTAAT CGTAAACCAAT GACAGTCTGG TTCAAAATGAG TATATATGAA
 4001 TAGATTGATT TAAACTTCA TTTTAAATTT AAAAGATCT AGGTGAAGAT CCTTTTTTGT AATCTCATGA CCAAAATCCC TTAACGTGAG TTTTCTGTTTC
 ATCTAACTAA ATTTTGAAGT AAAAATATAA TTTTCTAGA TCCACTTCTA GAAAAAACA GTCACTAAT CCGTATAGG GGTTTTAGGG AATTCGACTC AAAAGCAAG
 4101 ACTGAGCGTC AGACCCCGTA GAAAGATCA AAGGATCTT TTGAGATCCT TTTTCTTTC GCGTAATCTG CTGCTTGCAA ACAAAAAGG CAGCGTTTTC
 TGACTCGCAG TCTGGGGCAT CTTTCTAGT TTCTTAGAAG AACTCTAGGA AAAAAAGAG CGCATTAGAC GACGAAGCTT TGTTTTCTTG CTGCGATGAG
 4201 AGCGGTGGTT TGTTTGCCGG ATCAGAGCT ACCAATCTT TTTCCGAGG TAACTGGCTT CAGCAGAGCG CAGATACCAA ATACTGTCTT TCTAGTCTAG
 TCGCCACCAA ACAACGGCC TAGTTCTCGA TGGTTGAGAA AAAGGCTTCC ATTGACCGAA GTCTCTCCG GTCTATGCTT TATGACAGGA AGATCACATC
 4301 CCGTAGTTAG GCCACCACTT CAAGAACTCT GTAGACCGC CTACATACCT CCGTCTGCTA ATCTGTTCAC CAGTGGCTGC TGGCAGTGGC GATAAGTCTT
 GGCATCAATC CCGTGGTGAA GTTCTTGAGA CATCGTGGCG GATGTATGGA GCGAGACCAT TAGGACAATG GTACCCGAGC ACGGTACCGC CTATTCTAGA
 4401 GTCTTACCGG GTTGGACTCA AGACGATAGT TACCGGATAA GCGCGAGCG TCGGGCTGAA CGGGGGTTC GTGCACACAG CCCAGCTTG GAGAAAGAG
 CAGAATGGCC CAACCTGAGT TCTGCTATCA ATGGCTATT CCGGTGCGC AGCCCGACTT GCGCCCAAG CACGTGTGTC GGGTGAAGC TCGCTTCTG
 4501 CTACACCGAA CTGAGATACC TACAGCGTGA GCATTGAGAA AGCGCCAGC TTCCCGAAGG GAGAAAGCG GACAGGTATC CCGTAAAGCG CAGAGTCTGA
 GATGTGGCTT GACTCTATGG ATGTGCACT CGTAATCTT TCGCGGTGCG AAGGCTTCC CTCTTCCG CTTCCCATAG GGCATTCGGC GTCCACAGCT
 4601 ACAGGAGAGC GCACGAGGA GCTTCCAGG GGAACGCTT GGTATCTTTA TAGTCTCTTC GGTTTTCCG ACCCTTGACT TGAAGCTGAA TTTTCTGAT
 TGTCTCTCTG CGTCTCCCT CGAAGTCCC CTTTTCGGA CCATAGAAAT ATCAGGACAG CCAAAAGCG TGGAGACTGA ACTCCAGCT AAAAATCTTA
 4701 GCTCGTCAAG GGGCGGAGC CTATGGAAA ACGCAGCAA CGCGGCTTTT TTACGGTTTC TGGCTTTTC GCTCAGATCT TCTTTCTGAC
 CGAGCAGTCC CCGCGCTCTG GATACCTTTT TGGGTCTGTT GCGCCGAAA AATGCCAAG ACCGAAAAA GACCGAAAAA CAGAGTCTGA AAAAAAGAG

Figure 2-3

4801 GTTATCCCT GATTCTGTGG ATAACCGTAT TACCGCCTTT GAGTGAGCTG ATACCGCTCG CCGCAGCCGA ACGACCGAGC GCAGCAGTC ACTGAGCCAG
 CAATAGGGA CTAAGACACC TATTGGCATA ATGGCGAAA CTCACTCGAC TATGGCGAGC GGCTCGGCT TGTGGCTCG CGTCCTCAG TCACTCGCTC

 4901 GAAGCGGAAG AGCGCCCAAT ACGCAAAACG CCTCTCCCG CGGTTGGCC GATTCAITAA TCCAGCTGGC ACGACAGGTT TCCCGACTGG AAAGCGGGA
 CTTGCGCTTC TCGCGGGTTA TGCCTTGGC GGAGAGGGG GCGCAACCG CTAAGTAATT AGGTCGACCG TGTGTCTCAA AGGGCTGACC TTTCGCGCGT

 5001 GTGAGCGCAA CGCAATTAAT GTGAGTTACC TCACTCATTG GGCACCCAG GCTTTACACT TTATGCTTCC GGCTCGTATG TTGTGTGGAA TTGTGAGGCG
 CACTCGCGTT GCGTTAATTA CACTCAATGG AGTGAGTAAT CCGTGGGTC CGAAATGTGA AATACGAAG CCGACATAC AACACACTT AACACTCCCG

 TATTGTTAAA GTGTGTCCTT TGTGATACT GGTACTAATG CTTAATT

>length: 5147

Figure 3 **pSV.ID** **length: 5171 (circular)**

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1  TTCGAGCTCG CCCGACATTG ATTATTGACT AGAGTCGATC GACAGCTGTG GAATGTGTGT CACTTAGGGT GTGGAAAGTC CCCAGCTCC CCACACAGCA
  AAGCTCGAGC GGGCTGTAAC TAATAACTGA TCTAGCTAG CTGTCGACAC CTTACACACA GTCAATCCCA CACCTTTTCAG GGGTCGAGG GGTCTGCTGT
101 GAAGTATGCA AAGCATGCAT CTCATTAGT CAGCAACCAG GTGTGGAAG TCCCCAGGCT CCCCAGCAGG CAGACTATG CAAACATATC ATCTCAATTA
  CTTTCATACGT TTCGTACGTA GAGTTAATCA GTCGTTGGTC CACACCTTTC AGGGTCCGA GGGTCTGTC GTCTTCATAC GTTTCCTACG TAGACTTAAT
201 GTCAGCAACC ATAGTCCCGC CCCTAACTCC GCCATCTCCG CCCCTAACTC CGCCAGTTTC CGCCCATTTCT CCGCCCCATG GCTCACTAAT TTTTCTTATTT
  CAGTCGTTGG TATCAGGGCG GGGATTGAG GGGGTAGGC GGGGATTGAG GGGGTCAAG GCGGTAAAG GCGGGGTAC CGACTCATTA AAAAAATAA
301 TATGCAGAGG CCGAGGGCGC CTCGGCCTCT GAGCTATTCC AGAAGTAGTG AGGAGGCTTT TTTGGAGGCC TAGGCTTTTG CAAAAGCTA GCTTATCTCG
  ATACGCTCTCC GGCTCCGGCG GAGCGGAGA CTCGATAAGG TCTTCATCAC TCCTCCGAAA AAACCTCCGG ATCCGAAAC GTTTTTCGAT CCAATAGGCG
401 CCGGGAACGG TGCATTGGAA CCGGATTCC CCGTGCCAAG AGTGACGTAA GTACCGCCTA TAGACTCTAT AGGCCACCC CTTGGCTCTA GACAGATATA
  GGCCTTGCC ACCTAACCTT CGCCTAAGG GGCACGGTTC TCACTGCATT CATGGCGAT ATCTCAGATA TCCGGGTGG GAACCGAT CTCTCTATAT
      ^splice donor
501 AGCCTAGGAT TTTATCCCGG GTGCCATCAT GGTTCGACCA TTGAACGTCA TCCTCGCCCT GTCCCAAAAT ATGGGATTTG GCAAGAACG AGACTATAG
  TCGGATCCTA AAATAGGGCG CACGTAGTA CCAAGTGGT AACTTGAGT AGCAGCGCA CAGGTTTAA TACCCCTAAC CGTCTCTGCC TCTGGATCGG
601 TGCCTCCCGC TCAGGAACGC GTTCAGTAC TTCRAAGAA TGACCACAAC CTCTTCAGTG GAAGTAAAC AGAATCTGGT GATTATGGGT AGAAAACTT
  ACGGGAGGCG AGTCTTGCG CAAGTTCATG AAGTTTCTT ACTGCTTG GAGAAGTCA CTTCCATTG TCTTAGACCA CTAAATCCCA TCTTTTGA
701 GGTCTCCAT TCTGAGAAG AATGACCTT TAAAGACAG AATTAATATA GTTCTCAGTA GAGAACTCAA AGAACCACCA CGAGAGCTC ATTTCTTTCC
  CCAAGAGGTA AGGACTCTT TTAGCTGGAA ATTTCTGTC TTAATATAT CAAGATCAT CTCTTGAGTT TCTTGGTGGT GCTCTCGAG TAAAGAACG
801 CAAAAGTTTG GATGATGCCT TAAGACTTAT TGAACACCG GAATTGGCAA CATGGTTTGG ATAGTCGGAG CGAGTTCTGT TTACACAGAA
  GTTTTCAAC CTACTACGA ATTTCTGAATA ACTTGTTGGC CTTAACCGTT CATTTCTCT CTACCAAACC TATCAGCCTC CGTCAAGACA AATGCTCTTT
901 GCATGAATC AACAGGCCA CTTAGACTC TTTGTACAA GGATCATGCA GGAATTTGAA AGTGACACGT TTTTCCCAGA AATTGATTTG GGAATATATA
  CGGTACTTAG TTGTCCGGT GGAATCTGAG AAACACTGTT CCTAGTACGT COTTAACCTT TCACTGTGCA AAAGGGTCT TTAACATAAC CCTTTATAT
1001 AACCTCTCC AGAATACCA GCGTCCTCT CTGAGTCCA GGAGGAAAA GGCATCAAGT ATAAATTTGA AGTCTACGAG AAGAAAGACT AACACAGAA
  TTGGAGAGG TCTTATGGT CCGCAGGAGA GACTCCAGGT CCTCCTTTT CCGTAGTTCA TATTCAAACT TCAGATGCTC TTTCTTTCTGA TTGTCCTTCT
1101 TGCTTTCAAG TTCTCTGCTC CCTCCTAAA GCTATGCATT TTTATAGAC CATGGGACTT TTTCTGGCTT TAGACCCCTT TGGCTTCTTT AGAAGGAA
  ACGAAAGTTC AAGAGACGAG GGGAGGATTT CGATACGTAA AAATATCTG STACCTCGAA AAGCACCAG ATCTGGGGA ACCGAAGCAA TCTTGGCGG
      ^END DIHER
1201 TACAAATTAAT ACATAACCTT ATGTATCATA CACATAGATT TAGTGACAC TATAGATAA CATCCACTTT GCCCTTCTCT CCACAGTGT CACTTCAACT
  ATGTTAATTA TGATTTGGAA TACATAGTAT GTGTATCTAA ATCCACTGTG ATATCTTATT GTAGGTGAAA CCGAAAGAGA GTCTCCACA GTGAGTTCA
1301 CAACCTGCAC TCGTTTCTAT CGATTGAATT CCCCAGGAT CCTCTAGAGT CGACCTGAG AGCTTGGC GCATGGGC AACTTTTAA TTGAACTTA
  GTTACGTTGG AGCAAGATA GCTAACTAA GGGGCCCTA GGAGATCTCA GCTGGACCTC TTCCAACCG CUGTACCGG TTCAACAAAT AAGTCTAAT
1401 TAATGGTTAC AAATAAAGCA ATAGCATCAC AAATTTACA AATAAGCAT TTTTCTCACT GCATCTACT TGTGGTTTGT CCAACTCAT CAATTTATCT

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Figure 3-1

ATTACCAATG TTTATTTCGT TATCGTAGTG TTTAAAGTGT TTTAAAGTGA AAAAAAGTGA CGTAAGATCA ACACCAACA GGTTTGAGTA GTTACATAGA
 1501 TATCATGTCT GGATCGATCG GGAATTAATT CGGCGCAGCA CCATGGCCCTG AATAACCTTC TGAAGAGGA ACTTGGTTAG GTACCTTCTG AGGCGCAAG
 ATAGTACAGA CCTAGTAGC CCTTAATTA GCGCGTGTG GTTACCGGAC TTTATTGGAG ACTTCTCCT TGAACCAATC CATGGAAGAC TCCGCTTTC
 1601 AACCACTGT GGAATGTGTG TCAGTTAGG TGTGGAAAGT CCCCAGGCTC CCGAGCAGG AGAAGTATGC AAAGCATGCA TCTCAATTAG TCAGCAAGCA
 TTGCTCGACA CCTTACACAC AGTCAATCCC ACACCTTTCA GGGTCCGAG GGTCTCTCCG TCTTCTATAG TTTCTGATAGT AGAGTTAATC ACTGCTTCTG
 1701 GGTGTGGAAA GTCCCCAGG TCCCCAGCAG GCAGAAGTAT GCAAGCATG CATCTCAAT TATATGCAGAG CCGAGGCGG CTTCTGCTATTC
 CCACACCTTT CAGGGTCCG AGGGTCTGTC CGTCTTCATA CGTTTCTGAT GTAGAGTTAA TCAGTCTGTTG GTATCAGGG GGGCATTTGAG GCGGCTAGAG
 1801 GCCCTTAAC CCGCCAGTT CCGCCCATTC TCCGCCCAT GGTGACTAA TTTTCTTTAT TATATGCAGAG CCGAGGCGG CTTCTGCTATTC
 CCGGGATTGA GCGGGTCAA GCGGGTAAAG AGCGGGGTA CCGACTGAT AAAAAAATA AATACCTCTC CGGCTCCGGC GGAGCCCGAG ACTTCGATAAG
 1901 CAGAAGTAGT GAGGAGGCTT TTTTGAGGC CTAGGCTTTT GCAAAAAGCT GTTACCTCGA CCGGCGGCTT AATTAAGGG CGCCATTTTAA ATCTTGCAG
 GTCTTCATCA CTCTCCGAA AAAACCTCCG GATCCGAAA CGTTTTCGA CAATGGAGCT CGCGCGGAA TTAATTTCCG GCGTAAATTT TAGGACCTCC
 2001 TAACAGCTTG GCACTGGCGG TCGTTTACAC ACGTCGTGAC TGGGAAAACC CTGCGCTTAC CCAACTTAAT CGCTTGCAG CACATCCGCC CTTTGGCCAC
 ATTGTGCAAC CGTGACCGG AGCAAAATGT TGCAGCACTG ACCCTTTTGG GACCGCAATG GGTGAATTA CCGGAACGTC GTGTAGCGG GAACCGGCTC
 2101 TGGCGTAATA GCGAAGAGG CCGCACCGAT CGCCCTTCCC AACAGTTGG TAGCTGAAT GCGGNAATGG GCCTGATCGG GTATTTTCTC CTTTACGCAATC
 ACCGCATTAT CGCTTCTCCG GCGGTGGCTA GCGGGAAGG TTGTCAACGC ATCGCACTTA CCGCTTACCG CCGACTACGC CATAAAGAG GAATGCTGATG
 2201 TGTGCGGTAT TTTACACCG ATACGTCAA GCAACATAG TAGCGGCCCT GTAGCGGCGC ATTAAAGCGG GCGGTTGTGG TGGTTAGCGG CAGCTTAAAT
 ACACGCCATA AAGTGTGGG TATGCAGTTT CGTTGGTATC ATCGCGGGA CATCGCGCGG TAAATCGCGC GCGCCACACC ACCAATGCGG CTTCTGACTCG
 2301 GCTACACTTG CCAGCGCCCT AGCGCCGCT CTTTCTCGCT TCTTCTCGCT CTTTCTCGCC ACGTTGCGG GCTTTCCCGG TCAAGCTTA AATCGGGAAC
 CGATGTGAAC GGTCCGGGA TCGCGGGCGA GGAAGCGAA AGAAGCGAG GAAAGCGG TGCAAGCGG CGAAAGGGG AGTTCCAGAT TTAGCCCGCG
 2401 TCCCTTTAGG GTTCCGATTT AGTGTCTTAC GGCACCTCGA CCCCCAAAA CTTGATTTTG GTGATGGTTC ACGTACTGG CCATCGCCCT GATAGCAAGT
 AGGGAATCC CAAGCTAAA TCACGAAATG CCGTGGAGCT GGGGTTTTTT GAACATAAAC CACTAACAG TGCATCACCC GGTAGCGGA CTATCTGCA
 2501 TTTTCGCCCT TTGACGTTGG AGTCCACGTT CTTTAAATAGT GCACTCTGT TCCAAAATG AACACACATC AACCTTATCT CCGGCTATTC TTTTGAATTA
 AAAAGCGGA AACTGCAAC TCAGTGCAA GAATTTATCA CCGTGAACA AGGTTTGACC TTGTGTGTAG TTGGGATAGA GCGCGATAAG AAAACTAAAT
 2601 TAAGGGATTT TGCGATTTT GGCCTATTGG TTAATAATG AGCTGATTA ACAAAAATTT AACCGGAAT TTAACAAAAT ATTAAGCTTT ACAATTTTAT
 ATTCCCTAAA ACGCTAAA CCGGATAACC AATTTTATC TCGACTAAAT TGTTTTTAAA TTGCGCTTAA AATTTCTTTA TAAATGCAAA TCTTAAATA
 2701 GGTGCACTCT CAGTACAATC TGCTCTGATG CCGCATAGTT AAGCCACTC CCGTATCGCT ACGTACTGG GTCATGGCTG CCGCCGACA CCGCGCAACA
 CCACGTGAGA GTCATGTTAG ACGAGACTAC GCGGTATCAA TTCGGTTGAG GCGATAGCGA TGCACTGACC CAGTACCGAC CCGGGGCTGT GCGCGGTTGT
 2801 CCGCTGAGC CGCCTGACG GGTGTGCTG CTCCCGGCAT CCGCTTACAG ACAAGCTGTG ACCGTCTCCG GGAGTGTGAT GTGTGAGAG TTTTCACTCT
 GCGCGACTGC GCGGACTGC CCGAACAGAC GAGGCGCTA GCGGAATGTC TGTTCGACAC TGGCAGAGG CCTCGACGTA CACAGTCTCC AAAAGTGCA
 2901 CATCACCGAA ACGCGGAGG CAGTATTTCT GAAGACGAAA GGGCCTCGTG ATACGCCAT TTTTATAGGT TAAATGATG ATAATATGG TTTTCTTACAG
 GTAGTGCTT TCGCGGCTCC GTCTAAGAA CTCTGCTTT CCGGAGCAC TATGCGGATA AAAATATCCA AATTACAGTAC TATTTATTACC AAAGAATCTG
 3001 GTCAAGTGGC ACTTTTCGG GAAATGTGCG CGGAACCCCT ATTTGTTTAT TTTTCTTAAT ACATTCAAA ATGTATCCC TCATCAGACA ATAACTCA
 CAGTCCACCG TGAAGGCC CTTTACAGC GCCTTGGGGA TAAACAAATA AAAAGATTTA TCTAAGTTTA TACATAGGCG AGTACTCTGT TATTCGACT
 3101 TAAATGCTTC AATAATATTG AAAAAGGAAG AGTATGAGTA TTCAACATTT CCGTGTCCG CTTTATTCCT TTTTTCGGC ATTTTTCCTT CCTGTTTTTT
 AATTACGAAG TTATTATAAC TTTTCTCTTC TCATACTCAT AAGTTGTAAA GGCACAGCG GAATAAGGAA AAAAAGCGG TAAAAAGGAA GCAZAAAC

Figure 3-2

3201 CTCACCCAGA AACGCTGGTG AAAGTAAAG ATGCTGAAGA TCAGTTGGGT GCACGAGTGG GTTACATCGA ACTGATCTC AACACGGTA ACTTCCTTCA
GAGTGGGTCT TTGGGACCAC TTTCATTTTC TAGACTTCT AGTCAACCCA CGTGCTCACC CAATGTAGCT TGACCTAGAG TTGTGCGCAT TTCTAGGAAT
3301 GAGTTTTCG CCGAAGAAG GTTTTCCAAT GATGACACT TTTAAAGTTC TGCTATGTC CGCGTATTA TCCCGTGATG ACGCCGGCA ACAGCAACTC
CTCAAAAGCG GGGCTTCTTG CAAAAGGTTA CTAATCGTGA AAATTTCAAG AGGATACACC GCGCATAAAT AGGCACTAC TCGGCGCGT TTCTGTTGAG
3401 GGTGCGCGCA TACACTATT TCAGATGAC TTGGTTGAGT ACTCACCAGT CACAGAAAAG CATCTTACGG ATGCGATGAC AGTAAGAGAA TTATGCACTG
CCAGCGCGT ATGTGATAG AGTCTACTG AACCAACTCA TGAGTGCTA GTGTCTTTTC GTAGAATGCC TACCGTACTG TCATTTCTCTT AATACGTCAC
3501 CTGCCATAAC CATGAGTAT AACACTGCG CCACTTACT TCTGACAACG ATCGGAGGAC CGAAGGAGCT AACCGTTTT TTGACAACA TGGGGGATCA
GACGGTATTG GTAATCACTA TTGTGACGCC GGTGAATGA AGACTGTGC TAGCTCTCG GTTCTCTGA TTGGGAAAA AACGTTCTGT ACCCCCTACT
3601 TGTAACCTGC CTTGATCGTT GGGAACCGGA GCTGAATGAA GCCATACCA AGCAGAGCG TGACACCACG ATGCCAGCAG CAATGGCAAC AACGTTGCGC
ACATTGAGCG GAATAGCA CCCTTGGCT CGACTTACTT CGGTATGTT TCTGCTGCTG ACTGTGCTG TACGCTGCTG GTTACCGTTG TTGCAACCGC
3701 AAACATATA CTGGCGAAT ACTTACTCTA GCTTCCCGC AACAAATTA AGACTGGATG GAGCGGGA TAAGTTGCGG ACCACTTCTG CCGTGGGCG
TTTGATAATT GACCGCTTGA TGAATGAGT CGAAGGCGG TTGTTAATTA TCTGACCTAC CTCCGCCAT TTCAACGTTCC TGGTGAAGAC GCGAGCGCGG
3801 TTCCGGCTGG CTGGTTTATT GCTGATAAAT CTGGAGCCGG TGAGCGGGT TCTCGGGTA TCATGTCAGC ACTGGGCGCA GATGTAAGC CTTCCCGTAT
AAGCGCGACC GACCAATATA CGACTATTTA GACCTGGCC ACTCGGCC AGAGCGCCAT AGTAACGTCG TGACCGCGT CTACCATTCG GGAGGCGATA
3901 CGTAGTTATC TACACGACGG GGACTCAGG AACTATGGAT GAACGAATA GACAGATCG TGAGATAGGT GCCTCACTGA TTAAGCATTG GTAACTCTCA
GCATCAATAG ATGTGCTGCC CCTCAGTCCG TTGATACCTA CTTGCTTAT CTGTCTAGG ACTCTATCCA CGGACTGACT AATTCGTAAC CATTCGACT
4001 GACCAAGTTT ACTCATATAT ACTTTAGATT GATTAAAC TTCAATTTTA ATTTAAAGG ATCTAGGTGA AGATCTTTT TGATATCTC ATGACCAAAA
CTGGTTCAAA TGAGTATATA TGAATCTAA CTAAATTTG AAGTAAAT TAAATTTTC TAGATCCACT TCTAGGAAAA ACTATPAGAG TACTGCTTTT
4101 TCCCTTAAAG TGAGTTTTCG TTCCACTGAG CGTCAGACC CGTAGAAG CGTAAAGGAT ATCAAGGAT CTCTTTTGA TCTCTTTTCT CTGCGGTAA TCTGCTGCTT
AGGGAATTGC ACTCAAAAGC AAGTGACTC GCAGTCTGG GCATCTTTC TAGTTTCTTA GAAGAACTCT AGGAAAAAA GACGCGCATT ACAGGACGAA
4201 GCAACAAAA AAACCAACCG TACCAGCGT GGTGTTGTTG CCGATCAAG AGCTACCAAC TCCTTTTTCG AAGTAACTG GCTTCAGCAG AGGCGAGATA
CGTTTGTTTT TTGTTGGG ATGTCGCGCA CATCGGCATC AATCCGGTGG TGAAGTTCTT GAGACATCTT GCGGATGTA TGGAGCGAGA AATGGTCAAC
4301 CCAATACTG TCCTTCTAGT GTAGCCGTAG TTAGGCCAC ACTTCAAGAA CTCTGTAGCA CCGCTACAT ACCTGCTCT GCTAATCTG TTACCACTG
GGTTTATGAC AGGAAGATCA CATCGGCATC AATCCGGTGG TGAAGTTCTT GAGACATCTT GCGGATGTA TGGAGCGAGA AATGGTCAAC
4401 CTGCTGCCAG TGGGATAG TCGTGTCTTA CCGGTTGGA CTCAGACGA TAGTTACCGG ATAAAGCGCA GCGTCCGGC TGAACGGGG GTTCGTCAC
GACGACGCT ACCGCTATT ACCGATTC AGCAGAAAT GGCCAACT GAGTTCTGCT ATCAATGGCC TATTTCCGGT GCGCAGCGC ACTTCCCGC CAAGCAGTC
4501 ACAGCCCGC TTGGAGCGAA CGACTACAC CGAATGAGA TACCTACAGC GTGAGCATG AGAAAGCGC ACCTTCCG AGGGAGAAA GCGGACAGC
TGTCCGGTCG AACCTCGCTT GCTGATGTG GCTGACTCT ATGATGTCG CACTCGTAAC TCCTTCCGG TCGAAGGGC TTCCCTCTTT CCGCTCTGTC
4601 TATCCGGTAA GCGCAGGGT CCGAACAGGA GAGCGACGA GGGAGCTTCC AGGGGGAAC GCCTTGTATC TTTTATAGTCC TGTCCGTTT CCGCCTCTT
ATAGGCCATT CCGCGTCCA GCCTTGTCT CTGCGTGCT CCTCGAAG TCCCTTTTC CCGACCATAG AAATATCAG ACAGCCAAA GCGTTCGAGA
4701 GACTTGACG TCGATTTTGG TGATGCTCTG CAGGGGGGG GAGCCTATGG AAAACGCGA GCAACGCGC CTCTTTTACGG TTCTTGGCTT TTTGCTGCTT
CTGAATCCG AGCTAAAAAC ACTACGACA GTCCCGCGC CTCGGATACC TTTTTCGGT CGTTCGGCGG GAAAAATGCC AAGACCGGA AAACGACCG
4801 TTTTGTCTAC ATGTCTTTTC CTGCTTATC CCTGATCT CTGATTAAC GTATTACCG CTCTGAGTGA CTTTGTAGT CTTGCGGCG CCGAAATGAGT
AAACGAGT TACAAGAAAG GAGCAATAG GGCATTAAGA CACTATTGG CATAATGGG GAAACTACTT CGACTATGCG GAGCGCTC GGAATGCTG
4901 GAGCGCACG AGTCAGTGAG CGAGGAAGCG GAAGACGCC CAATACGCA ACCGCTCTC CCGCGCGT TTAATCTCAG TGGAGGATA

Figure 3-3


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CTCCGGTCCG TCAGTCACTC GTCCTTCGC CTTCTCGCG GTATGCGT TGGCGGAGAG GGCGCGGCAA CCGGCTAAGT AATTAGGTCC ACCGTGCTGT
5001 GGTTCCTCGA CTGGAAAGG GGCAGTGAGC GCAAGCAAT TAATGTGAGT TACCTCACTC ATTAGGCACC CCAGGCTTTA CACTTTATGC TTCCGGCTCG
CCAAAGGCT GACCTTTCCG CCGTCACTCG CGTTGCGTTA ATTACACTCA ATGGAGTGAG TAATCCGTGG GTCCGAAAT GTGAATATCC AAGGCGGAGC
5101 TATGTTGTGT GGAATTGTGA GCGGATAACA ATTTACACACA GGAACAGCT ATGACCAATGA TTACGAAATTA A
ATACACACACA CCTTAACACT CGCTATTGT TAAAGTGTGT CCTTGTCTGA TACTGGTACT AATGCTTTAA T
>length: 5171

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Figure 3-4

Figure 4
pSV.IPD
length: 5712 (circular)

1 TTCGAGCTCG CCCGACATTG ATTATTGACT AGAGTCGATC GACAGCTGTG GAATGTGTGT CAGTTAGGGT GTGGAAGTC CCCAGGCTCC CCAGCAGGCA
AAGCTCGAGC GGGCTGTAACTA TAATAACTGA TCTCAGCTAG CTCTCGACAC CTTACACACA GTCAATCCCCA CACCTTTCAG GGGTCCGAGG GGTCTCGTCCGT

101 GAAGTATGCA AAGCATGCAT CTCATTAGT CAGCAACCAG GTGTGGAAG TCCCAGGGCT CCCCAGCAGG CAGAAGTATG CAAAGCATGC ATCTCAATTA
CTTCATACGT TTCGTACGTA GAGTTAATCA GTCGTTGGTC CACACCTTTC AGGGTCCGA GGGTCTGTC GTCCTCATAC GTTTCGTAGG TAGAGTTAAT

201 GTCAGCAACC ATAGTCCCGC CCCTAACTCC GCCCATCCCG CCCTAACTCC CGCCAGTTC CGCCCATCT CGCCCATCT GCTCACTAAT TTTTCTTATTT
CAGTCGTTGG TATCAGGGCG GGGATTGAGG CCGGTAGGC GCGGTCAAG GCGGTCAAG GCGGGGTAC GCGGGGTAC CCACTGATTA AAAAAAATAA

301 TATGCAGAGG CCGAGGCCGC CTCGGCTCT GAGCTATCC AGAAGTAGTG AGGAGGCTTT TTTGGAGGCC TAGGCTTTTG CAAAAAUCTA GCTTATCTCG
ATACGTCTCC GGCTCCGGCG GAGCCGGAGA CTCGATAAGG TCTTCATCAC TCCTCCGAAA AAACCTCCGG ATCCGAAAAC GTTTTTCAT CCAATAGGCC

401 CCGGGAACGG TGCATTGGAA CGGGATTCC CCGTGCCAAG AGTGACGTAA GTACCGCCTA TAGACCGACT AGTCCACCAT GACCGAGTAC AAGCCACAGG
GGCCCTTGGC ACGTAACCTT GCGCCTAAGG GGCACGTTTC TCACTGCAT TCACTGCAT CATGCGGAT ATCTCGCTGA TCAGGTGGTA CTGGCTCATG TTCCGGTACC

501 TCGCCCTCGC CACCGCGGAC GACGTCGCC GGGCGTAGG CACCCTCGC CGCGGTTTC CGACTATCC CGCCACGCG CACACCGTAG ACCAGACAGG
ACGGGAGCG GTGGCGCTG CTGCGAGGCG CCGGCGATGC GTGGAGCGG CCGGCAAGC GGTCTATGG GCGTCCGCG GTGTGGCATC TGGGCTCTCG

601 CCACATCGAG CGGGTACCG AGTCAAGA ACTTCTCTC AGCGCGTTC GGTCTGACAT CGGCAAGGTG TGGGTCCGG ACCACGCGC CCGGTGAGG
GGTGTAGCTC GCCCAGTGGC TCGACGTTCT TGAGAAGGAG TCGCGCGAGC CCGAGCTGTA GCGGTCCAC ACCCAGGCC TGCTCCCGG GCGTCAACCG

701 GTCTGGACCA CGCCGGAGAG CGTCAAGCG GGGCGGTGT TCGCCGAGAT CGGCCCGCG ATGCCGAGT TGAGCGTTC CCGGTTCGG GCGGTTCGG GCGGTTCGG
CAGACCTGGT GCGGCTCTC GCAGTTTCG CCGCGCACCA AGGGCTCTA GCGGGCGCG TACCGGCTCA ACTCGCAAG GCGCGACCG GCGGTTCGG GTCTGCTTCG

801 AGATGGAAG CCTCCTGGC CCGACCGGC CCAAGGAGCC CGCGTGGTTC CTGGCCACCG TCGCGCTC GCGCGACCG CAGGCAAGG GTCTGCGCAG
TCTACCTTC GGAGACCG GCGGTGGCG GGTCTCTCG GCGCACCAAG GACCGTGGC AGCCGAGAG CCGGTCTG GCGGTCTG GTCCCGTTC CAGACCGCTC

901 CGCGTCTGT CTCGCCGAG TGGAGCGGC CGAGCGGCC GGGTGCCCG CCTTCTCTGA GACCTCCCG CCGCGCAAC TCCCTTCTA CAGACGCGTC
GGCGCAGCAC GAGGGGCTC ACTCCGCGC GCTCGCGCG CCCCAGGCG GGAAGGACCT CTGGAGGCG CCGGTCTG AGGGCAAGAT GCTTGGCGAG

1001 GGCTTCACCG TCACCGCGCA CGTCGAGTGC CCGAAGGACC GCGGACCTG GTGATGACC CGCAAGCCCG GTGCCAAT GGTTCGACCA TTGAACCTGCA
CCGAAGTGGC AGTGGCGGT GCAGCTCAG GGTCTCTGG CCGCTCTGG CCGCTACCTG CAGTACTGG GCGTTCGGC CAGGTTGTA CCAAGCTGGT AACTTGACCT

1101 TCGTCGCCGT GTCCCAAAAT ATGGGATTG GCAAGRACCG AGACCTACCC TGGCTCCCG TCAGGAACCG GTTCAAGTAC TTCCAAAGAA TGACCAACAG
AGCAGCGGCA CAGGTTTTA TACCCCTAAC CGTCTTGGC TCTGGATGG ACGGGAGGG AGTCTTGGC CAAGTTCATG AAGTTCCTT ACTGCTGTG

1201 CTCTTCAGTG GAAGGTAAC AGAATCTGGT GATTATGGGT AGGAAACCT GTTCTCCAT TCTCTCCAT TCTCTCCAT TCTCTCCAT TCTCTCCAT TCTCTCCAT
GAGAAGTCA CTTCCATTG TCTTAGACCA CTAATACCCA TCCTTTTGA CCAAGAGGTA AGGACTCTTC TTAGCTGGAA ATTTCTCTCT TTAATTTATAT

1301 GTTCTCAGTA GAGAACTCAA AGAACCACCA CGAGGAGCTC ATTTCTTTC CAAAAGTTTG GATGATGCC TAAGACTTAT TCAACACCG GAATTCGATA
CAAGAGTCA CTCTTGAGT TCTTGGTGGT GCTCCTCGAG TAAAGAACG GTTTTCAAAC CTACTACGGA ATTTCTGAATA ACTTCTTGGC CTTAAACGCTT

1401 GTAAAGTAGA CATGGTTTGG ATAGTCGGAG GCAGTTCTGT TTACCAGGAA GCCATGAATC AACAGGCCA CTTTAGACTC TTTTCTACAA GATTCATGTA
CATTTCTAT GTACCAAAAC TATCAGCCTC CGTCAAGACA AATGTCCTT CCGTACTTAG TTTGCTCGGT GGAATCTGAG AAACACTGTT CTTAGTACT

1501 GGAATTTCAA AGTGACACGT TTTTCCCGA AATTGATTG GGGAAATATA AACCTCTCCC AGAATACCCA GCGCTCTCT CTGAGTCCA GGAAGAAAA

Figure 4-1

CCTTAAACATT TCACCTGTGCA AAAAGGGTCT TTAACATAAC CCCTTTATAT TTGGAGAGGG TCTTATGGGT CCGCAGGAGA GACTCCAGGT CCTCCCTTTT
 1601 GGCAATCAAGT ATAAAGTTTGA AGTCTACGAG ABAGAAAGACT AACGTTAACT GCTCCCTCC TAAAGCTATG CATTTTATATA AGACCAATGG ACATTTTGTCTG
 CCGTAGTTCA TATTCAAACCT TCAGATGCTC TTCTTTCTGA TTGCAATTGA CGAGGGAGG ATTTCCGATAC GTAAATAATAT TCTGGTACCC TGAATAACGAC
 1701 GCTTTAGATC CCCTTGGCTT CGTTAGACG CAGCTACAAAT TAATACATAA CCTTATGTAT CATAACATA GTATGTAT GCTAAATCCA CTGTGATATC TATTTGATGTT
 CGAAATCTAG GGAACCGAA GCAATCTTGC TCGCATGTTA ATTATGTATT GGAATACATA GTATGTAT GCTAAATCCA CTGTGATATC TATTTGATGTT
 1801 CTTTGCCCTT CTCTCCACAG GTGTCCACTC CCAGGTCCAA CTGCACCTCG GTTCTATCGA TTGAATTTCC CCGGATCTCT CTAGAGTCCA CCTCCAGAAAG
 GAAACGGAAA GAGAGGTGC CACAGGTGAG GGTCCAGGTT GACGTGGAGC CAAGATAGCT AACTTAAGGG GCCCTTAGGA CATCTCAGCT GGACCTCTCT
 1901 CTTCGATGGC CGCCATGGCC CAACCTTGTCT APTGCAGCTT APTAGCTGTTA CAAATAAAGC AATAGCATCA CAAATTTTCC AATATAAGCA TTTTTTTTCAC
 GAAGCTACCG GCGGTACCAG GTTGAACAAA TAACGTGCAA TATTACCAAT GTTATTCTCG TTATCTAGT GCTTAAAGT GTTATAAGT TTTTATTTCT AAAAAAAGT
 2001 TGCAATCTAG TTGTGGTTTG TCCAAACTCA TCAATGTATC TTATCATGTC TGGATCGATC GGAATTTAAT TCGGGCGAGC ACCATGGCTT GAAATTAACCT
 ACGTAAGATC AACACCAAC AGGTTTGAGT AGTTACATAG AATAGTACAG ACCTAGCTAG CCCTTAAATTA AGCCGCTCG TGGTACCTGA CTTTATTTGA
 2101 CTGAAAGAGG AACTTGGTTA GGTACCTTCT GAGCGGAAA GRACCACTG TGGATGTGT GTCAATTAGG GTGTGAAAG TCCCCAGGCT CCCCAGCAGG
 GACTTTCTCC TTGAACCAAT CCATGGAAGA CTCCGCTTCT CTTGGTCCAG ACCTTACACA CAGTCAATCC CACACCTTTC AGGGTCCGA GGGTCTCTCC
 2201 CAGAAGTATG CAAAGCATGC ATCTCAATTA GTCAGCAACC AGGTGTGAA AGTCCCCAGG CTCCCCAGCA GGCAGAGTA TGAAGACAT GCATCTCAAT
 GTCTTCATAC GTTTCGTACG TAGAGTTAAT CAGTCGTGG TCCACACCTT TCAGGGGTCC GAGGGTCTG CCGTCTTCAAT ACGTTTCTGA CGTAGAGTTA
 2301 TAGTCAGCAA CCAATAGTCCC GCCCTAACT CCGCCCTAAC CCGCCCTAAC TCAGCCCTAGT TCCGCCCCAT CTCCGCCCTA TGGCTGACTA ATTTTCTTTT
 ATCAGTCGTT GGTATCAGG GGGGATGTA GCGGGTAGG GCGGGGATG AGCGGGTCA AGCGGGTAA GAGGGGCTT ACCGACTGAT TAAAAAAT
 2401 TTTATGCAGA GCGCAGGCC GCCTCGGCT CTGAGCTATT CCAGAAGTAG TGAGGAGGCT TTTTGGAGG CCTAGGCTTT TGCAAAAGC TGTTACCTCG
 AAATACGCT CCGGCTCCG CGGAGCCGA GACTCGATA GGTCTTCATC ACTCTCCGA AAAAACCTCC GATCCGAAA ACGTTTCTCG ACAATGGAGC
 2501 AGCGGCCGCT TAATTAAGGC GCGCATTTA AATCTGCAG GTAACAGCTT GGCACCTGGC GTCTTTTAC AACGTCGTGA CTGGGAAAC CTGCGCTTGA
 TCGCCGGCGA ATTAATTCG CCGGTTAAT TTAGGAGTC CATGTGCAA CCGTGACCG CAGCAAAATG TTGCAGCACT GACCTTTTTC GACCCCAAT
 2601 CCAACTTAA TCGCCTTGA GCACATCCC CCTTCGCCAG CTGGCGTAAT AGCGAAGAG CCGCACCGA TCGCCTTCC GGGGTGGCT AGCGGAAAG GTTGTCAACG CATCCGACTT
 GGGTTGAAT AGCGGAACGT CGTGTAGGG GGAAGGGTC GACCGCATTA TCGCTTCTCC GGGGTGGCT AGCGGAAAG GTTGTCAACG CATCCGACTT
 2701 TGGCGAATGG CGCTGATGC GGTATTTCT CTTAGCCAT CTGTGCGTA TTTCACACCG CATACGTCAA AGCAACCTA GTACGCCCT TGTAGCGGCG
 ACGCTTACC GCGGACTACG CCATAAAGA GGAATGGTA GACACGCCAT AAAGTGTGC GTATGCAGTT TCGTTGGTAT CATGCCGGG ACATCCCGC
 2801 CATTAAGCGC GCGGGGTGTG GTGTTACGC GCAGGTGAC CGTACACTT GCCAGCGCC GTACGCCCG TCCCTTCTGCT TCTTCTCTCG
 GTAATTCGG CCGCCACAC CACCAATGCG CGTCCACTG GCGATGTGA CCGTCCGGG ATCCGGGGG AGGAAAGCGA AAGAGGGGA GGAAGAGCG
 2901 CAGGTTCCG GGTTCCTCC GTCAAGCTCT AAATCGGGG CTCCCTTTAG GGTTCGCAAT TACTGCTTTA CGGCACCTCG ACCCAAAA ACTTGAATTC
 GTCAAGCG CCGAAAGGG CAGTTCGAGA TTTAGCCCC GAGGGAATC CCAAGGCTAA ATCAGCAAT GCCGTGGAGC TGGGTCTTT TCAACTTAA
 3001 GGTGATGTT CAGGTAGTGG GGCATCGCC TGATAGACGG TTTTCGCC CTTCAGCTT GACTCCAGCT TCTTTAATAG TGGACTCTTG TTCAAAACTG
 CCACTACCA GTGCATCAC CCGTAGCGG ACTATCTGCC AAAAGCGG AAACTGCAAC CTCAGGTGCA AGAATTTATC ACCTGAGAAC AAGCTTTGAC
 3101 GAACAACACT CAACCTATC TCGGGCTATT CTTTGTGATT ATAAGGATT TTGCCGATTT CGGCCTATTG GTTAAAAAT GAGCTGATTT AACAAAAAT
 CTTGTTGTA GTTGGGATAG AGCCGATAA GAAACTTAA TATTCCTAA AACGGTAAA GCGGATTAAC CAATTTTCTTA CTCGACTTAA TTGTTTCTTA
 3201 TAACGGCAAT TTTAACAAA TATTAACTT TACATTTTA TGGTGACTC TCAGTACAA CTGCTCTGAT GCGCATAGT TAAGCAACT TAAGCAACT
 ATTGCGCTTA AATTTGTTT ATAATTGCAA ATGTTAAAT ACCAGCTGAG AGTCATCTTA GACGAGACTA CCGCGTATCA ATTCCGTTGA GAGGATAGCT

Figure 4-2

3301 TACGTGACTG GGTCAATGGCT GCGCCCGGAC ACCCGCTGAC GCGCCCTGAC GGGCTTGTCT GCTCCCGGCA TCCGCTTACA GACAAAGCTGT
ATGCACTGAC CCAGTACCGA CGCGGGGCTG TGGGGGACTG CGCGGGACTG CCGGAACAGA CGAGGCGCGT AGCGAATGT CTGTTTGGACA

3401 GACCGTCTCC GGGAGCTGCA TGTGTCAGAG GTTTTACCAG TCATCACCGA AACGCGCGAG GCAGTATTCT TGAAGACGAA AGGCGCTCGT GATACGCCCTA
CTGGCAGAG CCCTCGAGCT ACACAGTCTC CAAAGTGGC AGTAGTGGCT TTGCGCGCTC CGTCATAAGA ACTTCTGCTT TCCCGGAGCA CTATGCGCAT

3501 TTTTATTAGG TTAATGTCTAT GATATTAATG GTTTCCTAGA CGTCAGTGG CACTTTTCGG GGAATGTGC GCGGAACCCC TATTTCTTAA
AAAAATATCC AATTACAGTA CTATTATTAC CAAAGATCT GCAGTCCACC GTGAAAAGCC CCTTTACACG CGCCTTGGGG ATAAACAAAT AAAAAGATTT

3601 TACATTCAAA TATGTATCCG CTCATGAGAC AATAACCCCTG ATAAATGCTT CAATAATATT GAAAAAGGAA GAGTATGAGT AATCAACATTT TCCGTGTCCG
ATGTAAGTTT ATACATAGGC GAGTACTCTG TTATTGGGAC TATTACGAA GTTATTATAA CTTTTTCCTT CTCATACTCA TAAGTTGTAA AGGCACAGCG

3701 CCTATTCCC TTTTATTGCG CAATTGCGCT TCCTGTCTT GCTCACCCAG AACGCTGCT GAAAGTAAAA GATGCTGAAG ATCAGTTGGG TCCACGAGTG
GGAATAAGGG AAAAAAGCC GTAAAACGGA AGACAACAAA CGAGTGGGTC TTGCGGACCA CTTTCATTTT CTACGACTTC TAGTCAACCC AGCTGCTCAG

3801 GGTTACATCG AACTGGATCT CAACAGCGGT AAGATCCTTG AAGTCTCTG TTCTAGAAC TCTCAAAAGC GGGGCTTCTT GCAAAAGGTT ACTACTCGTG AAAATTTCAA GACGATACAC
CCAATGTAGC TTGACCTAGA GTTGTGCGCA GTTGTGCGCA TTCTAGAAC TCTCAAAAGC GGGGCTTCTT GCAAAAGGTT ACTACTCGTG AAAATTTCAA GACGATACAC

3901 GCGCGGTATT ATCCCGTGAT GACGCGGGC AAGAGCAACT CGTGCGCGC ATACACTATT CTCAGAAATGA CTTTGTGTAG TACTCACCAG TCACAGAAAA
CGCGCCATAA TAGGGCACTA CTGGGCGCCG TTCTGTTGA GCCAGCGCG TATGTATAA GAGTCTTACT GAACCACTC ATGAGTGGTC ACTGTCCTTT

4001 GCATCTTACG GATGGCATGA CAGTAAGAGA ATTATGCAGT GCTGCCATAA CCATGAGTGA TACAGACTGG GCCAACTTAC TTTGACAAAC GATCGGAGGA
CGTAGAATGC CTACCGTACT GTCATTCTCT TAATAGTCA CGACGGTATT GGTACTCACT ATTGTGACGC CGGTGAATG AAGACTGTG CTAGCCTCTT

4101 CCGAAGGAGC TAACCGCTTT TTTGCACAAC ATGGGGATC ATGTAATCG CTTTATGCTT TGGGAACCGG AGCTCAATGA AGCCATACCA AACGACGAGC
GGCTTCCTCG ATTGGCGAAA AAACGTGTTG TACCCCTAG TACATTGAGC GGAAGTACCA ACCCTTGGCC TCGACTTACT TCGGTATGGT TTGCTGTCTG

4201 GTGACACCAC GATGCCAGCA GCAATGGCAA CAACCTTGGC CAAACTATTA ACTGGCGAAC TACTTACTCT AGCTTCCCGG CAACAATTA TAGACTGCAAT
CACTGTGCTG CTACGGTCTG GTTGCAACGC GTTTGATAAT TGACCGCTTG ATGAATGAGA TCGAAGGGCC GTTGTTAAAT ATCTGACCTA

4301 GGAGGCGGAT AAGTTGCGAG GACCACTTCT GCGCTCGGCC CTTCCGGCTG GGTGTTTAT TCGTGATAAA TCTGGAGCGG GTGAGCGTGG GTCTCGGAGT
CCTCCGCCTA TTTCAACGTC CTGGTGAAGA CGCAGCGCGC GAAGCGCGAC CGACCAATA AGCACTATTT AGACCTCGGC CACTCGCACC CAGAGCGGCA

4401 ATCAATTGCAG CACTGGGGC AGATGGTAAG CCCTCCCGTA TCGTAGTTAT CTACACGAGG GGGAGTCAGG CAACTATGGA TGAACGAAAT AGACAGATCG
TAGTAACGTC GTGACCCCGG TCTACCATTC GGGAGGGCAT AGCATCAATA GATGTGCTGC CCCTCAGTCC GTTGATACCT ACTTGTCTTA TCTGTCTAGC

4501 CTGAGATAGG TGCCTCACTG ATTAAGCATT GGTAACTGTC AGACCAAGTT TACTCATATA TACTTTAGAT TGATTTAAAA CTTCAATTTT AAATTTAAAA
GACTCTATCC ACGGAGTGAC TAATTCTGTA CCATTGACAG TCTGGTTCAA ATGAGTATAT ATGAAATCTA ACTAAATTTT GAACTAAAAA TTAAATTTTC

4601 GATCTAGGTG AAGATCCCTT TTGATAATCT CATGACCAAA ATCCCTTAAC GTGAGTTTTT GTTCCACTGA GGTTCAGACC CCGTAGAAAA GATCAAGGA
CTAGATCCAC TTCTAGGAAA AACTATTAGA GTACTGGTTT TAGGGAATTG CACTCAAAAG CAAGGTGACT CGCAGTCTGG GGCATCTTTT CTAGTTTCTT

4701 TCTTCTTGAG ATCCTTTTTT TCTGCGCGTA ATCTGTGCT TGCRAACAAA AAAACACCG CTACACCGG TGGTTGTGTT GCGGATCAA GAGTACCAA
AGAAGAACTC TAGGAAAAA AGACGGCGAT TAGACGACGA ACGTTTGT TTGTTGTTGCG GATGTCGCC ACCAAACAAA CGGCCTAGTT CTCAATGCTT

4801 CTCTTTTCC GAAGTAACT GGTTCAGCA GAGCGCAGAT ACCAAATACT GTCTTCTAG TGTAGCCGTA GTTAGGCCAC CACTTCAAGA ACTCTGTAA
GAGAAAAAGG CTTCCATTGA CCGAAGTCT CTGCGCTCTA TGGTTTATGA CAGGAAGATC ACATCCGCT CAATCCGCTG GTGAAAGTTCT TCAGACATCG

4901 ACCGCTTACA TACCTCGCTC TGCTAATCCT GTTACCAGTG GCTGTGCCA GTGGCGATAA GTCTGTCTT ACCGGTTGG ACTCAAGAGG ATACTTAACT
TGGCGGATGT ATGGAGCGAG ACGATTAGGA CAATGGTCA CGACACGGT CACCGTATT CAGCACGAA TGGCCCAACC TGAGTTCTGC TATCAATCAC

5001 GATAAGGCGC AGCGTCTGG GTTTCGTGCA CACAGCCCAG CTTGGAGCGA ACGACCTACA CCGAAGTGA ATACCTACAG CGTAGACATTT

Figure 4-3

CTATTCCGCG TCGCCAGCCC GACTTGCCCC CCAAGCAGCT GTGTGGGTC GAACCTCGCT TGCTGGATGT GGCTTGACTC TATGGATGTC GCAC'TCC'IAA
 5101 GAGAAAGCGC CACGCTTCCC GAAGGAGAA AGGCGGACAG GTATCCGGTA AGCGGCAGGG TCGGAACAGG AGAGCGCAGC AGGAGCTTC CAGGGGGAAA
 CTCTTTCCGG GTGCGAAGGG CTTCCCTCTT TCCGCTGTC CATAGGCCAT TCGCGTCCC AGCCTTGTC TCTCGGTGC TCCCTCGAAG GTCCCCCTTT
 5201 CGCCTGGTAT CTTTATAGTC CTGTGCGGTT TCGCCACCTC TGACTTGAGC GTCGATTTT GTGATGCTCG TCAGGGGGGC GGAGCTATG GAAAAACGCG
 GCGGACCATA GAAATATCAG GACAGCCCCA AGCGTGGAG ACTGAATCG CAGTAAAAA CACTACGAGC AGTCCCCCG CCTCGGATAC CTTTTTTCGCG
 5301 AGCAACGCGG CTTTTTACG GTTCTGGCC TTTTGTGGC CTTTGTCTCA CATGTTCTTT CTGCGTTAT CCCCTGATTC TGTCGATAAC CGTATTAACCG
 TCGTTGCGCC GGAATAATGC CAAGGACCG AAAACGACG GAAACGAGT GTACAAGAAA GGAGGCAATA GGGACTAAG ACACCTATG GCAT'AA'YGGC
 5401 CCTTTGAGTG AGCTGATACC GCTGCGCGCA GCGGAACGAC CGAGCGCAGC GAGTCAGTGA GCGAGGAAGC GGAAGAGCGC CCAATACGCA AACCGGC'TC'T
 GGAAACTCAC TCGACTATGG CGAGCGGCGT CGGCTTGCTG GCTCGGCTCG CTCAGTCACT CGCTCCTTCG CCTTCTCGCG GGTATGCGT TTGGCGGAGA
 5501 CCCCAGCGGT TGGCCGATTC ATTAATCCAG CTGGCAGCAG AGGTTTCCCG ACTGGAAGC GGCAGTGAG CGCAACGCAA TTAATGTTGAG TTACCTCACT
 GGGGCGGCA ACGGCTAAG TAATTAGGTC GACCGTCTG TCCAAAGGC TGACCTTTCG CCGTCACTC GCGTTGCGTT AAT'TACACTC AATGGAGTCA
 5601 CATTAGGCAC CCCAGGCTTT ACAC'TTTATG CTTCCGGCTC GTATGTTGTG TGGAA'TTGTG AGCGGATAAC AAT'TTCACAC AGGAAACAGC TAT'GACCA'IG
 GTAATCCGTG GGTCCGAAA TGTGAATAC GAAGGCCGAG CATAACAC ACCTTAACAC TCCCTTATG TTAAGTGTG TCC'TTT'GTGTCG ATACTGGTAC
 5701 ATTACGAATT AA
 TAATGCTTAA TT

>length: 5712

Figure 4-4

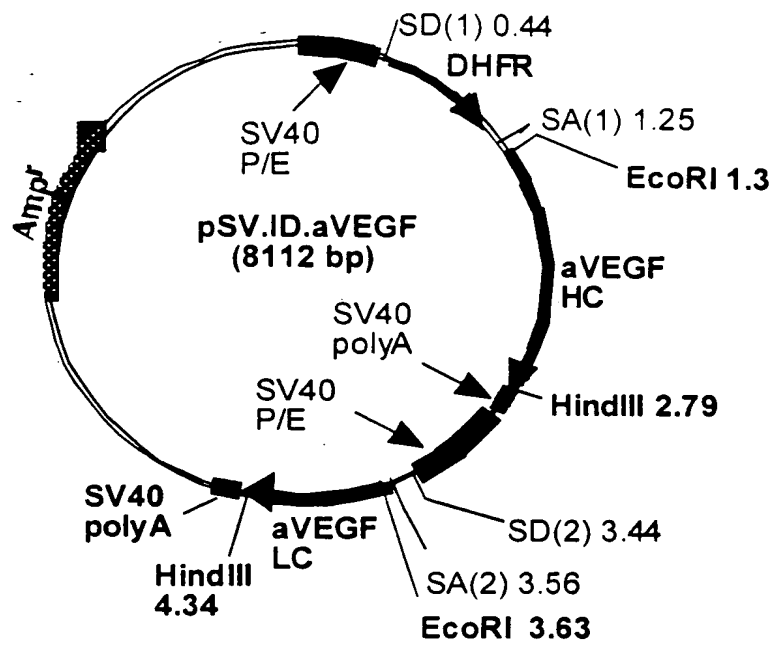


Figure 5. pSV.ID.aVEGF control plasmid

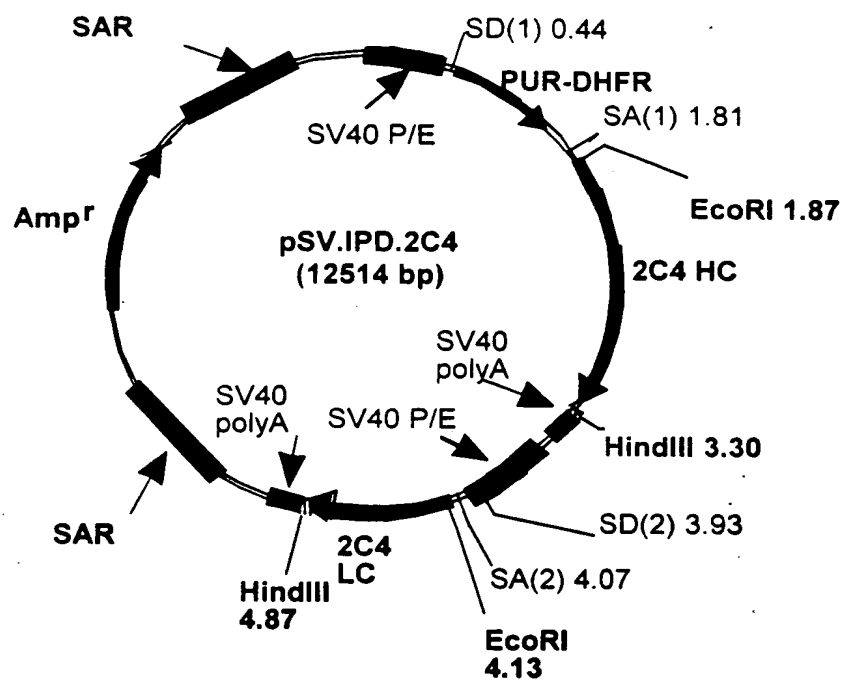


Figure 6. pSV.IPD.2C4

Figure 7

pSV.IPD.2C4

length: 12514 (circular)

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1  TTGAGCTCG CCGACATTG ATTATTGACT AGAGTCGATC GACAGCTGTG GAATGTGTGT CAGTTAGGGT GTGGAAGTC CCAGGCTCC CCAGGAGGA
  AAGCTCGAGC GGGCTGTAACTA TAATAACTGA TCTCAGCTAG CTGTGACAC CTTACACACA GTCAATCCCA CACCTTTTCAG GGTCCGAGG GGTCTCTCGT
101 GAAGTATGCA AAGCATGCAT CTCAATTAGT CAGCAACACAG GTGTGGAAG TCCCAGGCT CCCAGCAGG CAGAAGTATG CAAAGCATGC ATCTCAATTIA
  CTTTCATACGT TTGCTACGTA GAGTTAATCA GTGCTTGTC CACACCTTTC AGGGTCCGA GGGGTGCTCC GTCTTTCATAC GTTTCGTAGC TAGAGTTAAAT
201 GTCAGCAACC ATAGTCCCGC CCCTAACTCC GCCATCCCG CCCTAACTC CGCCAGTTC CGCCCATCTT CCGCCCATG GCTGACTAAT TTTTTCATAT
  CAGTCGTTGG TATCAGGGCG GGGATTGAGG CGGGTAGGG GGGATTGAG GCGGTCAAG GCGGTGTAAGA GCGGGGTAC CCACTGATTA AAAAAATAA
301 TATGCAGAGG CCGAGGCCCG CTCGGCTCT GAGCTATTCC AGAAGTAGTG AGGAGGCTTT TTTGAGGGC TAGGCTTTTG CAAAAAGCTA GCTTATCCGG
  ATACGTCTCC GGCTCCGGCG GAGCCGGAGA CTCGATAAGG TCTTCATCAC TCCTCCGAAA AACCTCCGG ATCCGAAAAC GTTTTCGAT CGAATAGGCC
401 CCGGGAACGG TGCANTGGAA CCGGATTCC CCGTGCCAAG AGTCAGCTAA GTACCGCCTA TAGACGACT AGTCCACCAT GACCGACTAC AAGCCACCG
  GGCCTTGCC ACGTAACCTT GCGCCTAAGG GGCACGCTTC TCACTGCATT CATGGCGGAT ATCTCGCTGA TCAGGTGGTA CTGGCTCATG TTCGGGTGCC
501 TCGCGCTCGC CACCCGGGAC GACGTCCCGC GGGCCGTAGC CACCCTCGC GCGCGTTTCG CCGACTACCC CGCCAGCGC CACACCGTAG ACCCGGACCG
  ACCCGGAGCG GTGGGCGCTG CTGCGAGGCG CCGGGATGC GTGGAGCGG CCGGGCAAGC GGCTGATGGG GCGGTGCGG GTGTGGCATC TCGGCTTGG
601 CCACATCGAG CCGGTCACCG AGTTCCTC ACTTCCTC AGCGCGCTG GGTCTGACAT CGGCAAGGTG TGGTTCGGG ACAGCGCGC CCGGTGGCG
  GGTGTAGCTC GCCAGTGC TCGAGTTCT TGAGAGGAG TCGCGGAGC CCGAGCTGTA GCGTTCCAC ACCCAGCGC TGCTGCCCG GCGCCACCG
701 GTCTGGACCA CCGCGGAGAG CGTCGAAGC GGGCGGTGT TCGCCGAGT CCGCCCGC ATGCCCGAGT TGAGCGGTTT CCGGTGGCC CCGCAGCAAC
  CAGACCTGGT CGGCGCTCTC GCAGCTTCG CCGCGGCTA AGCGGCTCTA GCGGGGCGG TACCGGCTCA ACTGCCAAG GCGCAGCGG CCGGTCTG
801 AGATGGAGG CTTCTGGG CCGCACCGC CCAAGGAGC CGCTGCTTC CTGGCCACCG TCGGCTCTC GCGCGACAG CCGGCTGTT CAGACCGCTC
  TCTACCTTCC GGAGGACCG GCGGTGGCG GTTCTCTCG CGCACCAAG GACCGGTGGC AGCGGACAG CCGGCTGTT GTCCTGCTCC CAGACCGCTC
901 CGCGTCTGT CTCCTCGGAG TGGAGGCGC CGAGCGCGC GGGTSCCG CCTTCTCGA GACCTCCGG CCGCGCAAC TCCCTTCTA CGAGCGCTC
  CGGCAGCAC GAGGGGCTC ACCTCGCG GCTCGCGG CCGCGCGG GGAAGACCT CTGGAGGCG CCGGCTGTT AGGGAGAGT GCTCGCGG
1001 GGCTTCACCG TCACCGCGA CPTCAGTGC CCGAAGGACC GCGCACCTG GTGCTGACC CGCAAGCGC GTGCCAAT GGTTCGACCA TTGAACCTCCA
  CCGAAGTGC AGTGGCGCT GCAGCTCAG GGTCTCTG CGCGCTGGAC CAGCTACTG CCGTTCGGC CAGGTGTTA CCAAGCTGGT AACCTTCAGCT
1101 TCGTCGCGT GTCCCAAAAT ATGGGATTG GCAAGAACG AGACTACCC TGCCCTCCG TCAGGACCG GTTCAAGTAC TTCCAAAGTA TGACCAAC
  AGCAGCGCA CAGGGTTTA TACCCCTAAC CGTCTTGCC TCTGGATGG ACCGGAGG AGTCTTGGC CAGGTTCATG AAGTTTCTT ACTCGTCTG
1201 CTCTTCAGTG GAAGTAAAC AGAATCTGGT GATTATGGT AGGAAACCT GGTCTCTCAT TCCTGAGAAG AATCGACCTT TAAAGGACAG AATTAATATA
  GAGAAGTCAC CTTCCATTG TCTTAGACCA CTAATACCCA TCCTTTTGA CCAAGAGGTA AGGACTCTTC TTAGCTGAA ATTTCTCTC TTAATTTATAT
1301 GTTCTCAGTA GAGAACTCAA AGAACACCA CGAGGAGCTC ATTTTCTTGC CAAAAGTTTG GATGATGCCCT TAAGACTTAT TGAACAACCG GAATTCGCAA
  CAAGAGTCAT CTCCTCAGTT TCTTGAGTT GCTCCTCGG TAAAGAACG GTTTTCAAAC CTACTACGGA ATTCCTGAATA ACTTGTGGC CTTAACCGTT
1401 GTAAAGTAGA CATGTTTGG ATAGTCGGAG GCAGTCTGT TTACCAGGA GCCATGAATC AACAGGCCA CCTTAGACTC TTTGTGACAA GCATCATGCA
  CATTTTCATCT GTACCAACC TATCAGCTC CGTCAAGACA AATGGTCTT CCGTACTTAG TTGGTCCGGT GGAATCTCAG AAACACTCTT CTTAGTACT
1501 GGAATTTGAA AGTGACACGT TTTTCCAGA AATTGATTG GGAATATATA AACCTCTCCC AGAATACCCA GCGTCTCTCT CTGAGGTCCA CGAGGAAAA

```

Figure 7-1

CCTTAAACTT TCACTCTGCA AAAAGGGTCT TTAACATAAC CCCTTTATAT TTGGAGAGGG TCTTATGGGT CCGCAGGAGA GACTCCAGGT CCTCCTTTT
 1601 GGCATCAAGT ATAAGTTTGA AGTCTACGAG AAGAAAGACT AAGCTTAACT GCTCCCTCTCC TAAAGCTATG CATTTTATATA AGACCATGGG ACITTTTGTG
 CCGTAGTTCA TATTCAAACT TCAGATGCTC TTCTTTCTGA TTGCAATTGA CGAGGGGAGG ATTTCGATAC GTAAAAATAT TCTGGTACCC TGAACACGAC
 1701 GCTTTAGATC CCCTTGGCTT CGTTAGAAGC CAGCTACAAT TAATACATAA CTTTATGTAT CATACACATA CGATTTAGGT GACACTATAG AATAACATCC
 CGAAATCTAG GGAACCGAA GCAATCTTGC GTCGATGTTA ATTATGTAAT GGAATACATA GTATGTAT GCTAAATCCA CTTGTATATC TTATTGTAGG
 1801 ACTTTGCCCTT TCTCTCCACA GGTGTCACCT CCCAGGTCCA ACTGCACCTC GGTTCCTATCG ATTGAATTC ACCATGGGAT GGTCAATGAT CATCCTTTT
 TGAACCGAA AGAGAGGTGT CCACAGTGA GGGTCCAGT TGACGTGGAG CCAAGATAGC TAACTTAAGG TGGTACCTTA CCAGTACATA GTAGGAAAAA
 1901 CTAGTAGCAA CTGCAACTGG AGTACATTCA GAAGTTGAGT GGGTGGAGTC TGGCGGTGGC CTGGTGCAGC CAGGGGGCTC ACTCCGTTTG TCCGTGTGAG
 GATCATCGTT GACGTTGACC TCATGTAAGT CTTCAAGTCG ACCACCTCAG ACCGCCACCG GACCAGTGC GTCCCCGAG TGAGGCAAAAC AGGACACGTC
 2001 CTTCTGGCTT CACCTTCACC GACTATACCA TGGACTGGGT CCGTCAGGCC CCGGTAAGG GCCTGGAATG GGTTCAGAT GTTAAATCCTA ACAGTGGCGG
 GAACACCGAA GTGGAAGTGG CTGATATGGT ACCTGACCCA GGCAGTCCGG GGCCTTCC CGGACCTTAC CCAACGTCTA CAATTAGGAT TGTACCCGCC
 2101 CTCTATCTAT AACACGGCT TCAAGGCGG TTTCACTCTG AGTGTGACA GATCTAAAA CACATTATAC CTGCAGATGA ACAGCCTGCG TGTGAGGAC
 GAGATAGATA TTGGTCCGGA AGTTCCGGC AAAGTGAGAC TCACAACCTGT CTAGATTTT GTGTAATATG GACGTCTACT TGTGGGACG ACAGTCTCTG
 2201 ACTGCCGTCT ATTATGTGC TCGTAACTG GGACCTCTT TCTACTTTGA CTACTGGGT CAAGAAACCC TGGTACCCGT CTCCTCGGCC TCCACCAAGG
 TGACGGCAGA TAATAACAG AGCATGGAC CCGTGGAGAA AGATGAACT GATGACCCCA GTTCTTGG ACCAGTGGCA GAGGAGCGG AGGTGGTTC
 2301 GCCATCGGT CTTCCCTCTG GCACCTCTCT CCAAGAGCAC CTCTGGGGC ACAGCGGCC TGGGTGCCT GGTCAAGGAC TACTTCCCG AACCGGTGAC
 CCGGTAGCCA GAAGGGGGAC CGTGGAGGA GGTCTCTGT GAGACCCCG TGTGCGCGG ACCCGACGA CCAGTCTCTG ATGAAGGGG TTGGCCACATG
 2401 GGTGTCTGG AACTCAGGG CCTGACCAG CGGCTGCAC ACCTTCCGG CTGTCTTACA GTCTCTCAGG CTCTACTCCC TCAGCAGCGT GGTGACATG
 CCACAGCAC TTGAGTCCG GGTCTGGATG TAGACCTTG ACTTAGTGT CCGGTCTGTG TGGTCTCCAC TGTCTTTCA ACTCGGTTT AGAACACTGT
 2501 CCTCTAGCA GCTTGGGCAC CCAGACCTAC ATCTGCAAG TGAATCACA GCCAGCAC ACCAAGGTG ACAAGAAAGT TGAGCCCAA TCTTGTGACA
 GGGAGATCGT CGAACCCGTG GGTCTGGATG TAGACCTTG ACTTAGTGT CCGGTCTGTG TGGTCTCCAC TGTCTTTCA ACTCGGTTT AGAACACTGT
 2601 AAACACAC ATGCCACCG TGCCAGCAC CTGAATCTCT GGGGGGACCG TCAGTCTTCC TCTTCCCCC AAAACCCCAAG GACACCTCA TGATCTCCCG
 TTTGAGTGT TACGGGTGCG ACCGGTCTG GACTTGAGGA CCCCCCTGGC AGTCAGAGG AGAAGGGGG TTTTGGGTTC CTGTGGGAGT ACTAGAGGGC
 2701 GACCCCTGAG GTCACATCG TGTGGTGA CGTGAGCCAC GAAGACCTG AGGTCAAGTT CAACTGGTAC GTGACGCGG TGGAGGTGCA TAATGCCAAG
 CTGGGGACTC CAGTGTACCG ACCACCACT GCATCGGTG CTTCTGGAC TCCAGTTCAA GTTGACCATG CACCTGCCG CACCTCCAGT ATTACGGTTC
 2801 ACAAGCCGC GGGAGGAGCA GTACAACAGC ACGTACCGG TGGTCAAGCT COTCACCGTC CTGCACCGG ACTGGCTGAA TGGCAAGGAG TACAAGTGA
 TGTTCGGCG CCTCTCTGT CATGTTGTG TGCATGGCC ACCAGTCGCA GGAGTGGCAG GACGTGTCTC TGACCGACTT ACCGTTCTCTC ATGTTACCT
 2901 AGGTCTCAA CAAAGCCCTC CCAGCCCCCA TCGAGAAAC CATCTCCAA GCCAAAGGG AGCCCCGAGA ACCACAGGTG TACACCTGC CCCCATCCCG
 TCCAGAGTT GTTTCGGGAG GGTGGGGGT AGCTCTTTG GTAGAGTTT CCGTTTCCG TCGGGGTCT TGGTGTCCAC ATGTGGGAG GGGGTAGGGC
 3001 GGAAGAGATG ACCAAGRACC AGGTGACCT GACCTGCTG GTCAAGGCT TCTATCCAG CGACATCGCC GTGGAGTGG AGAGCAATGG GCAGCCGAG
 CCTTCTCTAC TGGTCTTGG TCCAGTCGGA CTGACGGAC CAGTTTCCGA AGATAGGTC GCTGTAGCGG CACCTCACCC TCTCGTTACC CGTCCGCCTC
 3101 AACAACTACA AGACACGCC TCCGTGCTG GACTCCGAC GCTCTTCTT CCTCTACAGC AAGTCAACG TGGACAAGAG CAGGTGGCAG CAGGGAACG
 TTGTTGATGT TCTGTTGCG AGGGCACGAC CTGAGGCTGC CGAGGAAGAA GGAGATGTG TTCGAGTGGC ACTGTTCTC GTCCACCGTC GTCCCTTGC
 3201 TCTTCTCATG CTCCGTGATG CATGAGGCTC TGACAACCA CTACAGCAG AAGAGCTCT CCTGTCTCC GGTAATGA GTGCGACGCC CCTAGAGTGG
 AGAAGATAC GAGGACTAC GTACTCCGAG ACGTGTGGT GATGTGCGT TTCTCGAGA GGGACAGAG CCATTTTACT CACGCTGCCG GGATCTCAGC

Figure 7-2

3301 ACCTGCAGAA GCTTCGATGG CCGCATGGC CCAACTGTGT TATTGCAGCT TATAATGGTT ACAAAATAAG CAATAGCATC ACAAATTTC AATAAAGC GCTTTATTTCG
TGGACGTCTT CGAAGCTACC GCGGTACCG GGTGAACAA ATAACGTGCA ATATTACCAA TGTTTATTTC GTTATCGTAG TGTTTAAAGT GTTTATTTCG

3401 ATTTTTTTCA CTCGATTCTA GTTGTGGTTT GTCCAAACTC ATCAATGTAT CTATCATGT CTGATCGGG AATTAAATTCG GCGCAGCACC ATGGCCCTGAA
TAAAAAAGT GAGCTAAGAT CAACACCAA CAGGTTGAG TAGTTACATA GAATAGTACA GACCTAGCCC TTAATTAAGC CGCGTCGTGG TACCCGACTT

3501 ATAACCTCTG AAAGAGGAAC TTGGTTAGGT ACCTTCTGAG GCGGAAAGAA CCAGCTGTGG AATGTGTGT AGTTAGGGTG TGGAAAGTCC CCAGGCTCCC
TATTGGAGC TTTCTCCTTG AACCAATCCA TGGAGACTC CGCCTTCTT GGTGACACC TTACACACAG TCAATCCCAC ACCTTTCAGG GGTCCGAGGG

3601 CAGCAGGCAG AAGTATGCNA AGCATGCATC TCAATTAGTC AGCAACCAGG TGTGGAAGT CCCCAGGCTC CCCAGCAGG AGAATATGC AAAGCATGCA
GTCGTCGTC TTCATACGTT TCGTACGTAG AGTTAATCAG TCGTTGTCTC ACACCTTTCA GGGTCCGAG GGTTCGTCGG TCTTCATACG TTTTCGTACGT

3701 TCTCAATTAG TCAGCAACCA TAGTCCCGC CCTAATCTCG CCCATCTCC GCCCATTTCC GCCCATTTCT CGCCCATTCG CTGACTAAAT
AGAGTTAATC AGTCGTTGTT ATCAGGGCGG GGAATTGAGG GGTAGGGCG GGTAGTACAG CGGGTAAGAG CCGGGGTACC GACTGATTAA

3801 TTTTTTATTT ATGCAGAGC CGAGCCCGC TCGGCTCTG AGCTAATCCA GAAGTAGTGA GGAGGCTTTT TTGGAGGACT AGGCTTTTTC AAAAAAGCTAG
AAAAATAAA TACGTCTCCG GCTCCGGCG AGCCGAGAC TCGATAAGGT CTTTCATCACT CCTCCGAAAA ACCTCCTGA TCCGAAAAACG TTTTTCGATC

3901 CTTATCCGC CGGGAACGGT GCATTGGAAC GCGGATTCG CGTGCCAAGA GTCAGGTAAG TACGCGCTAT AGAGTCTATA GGGCCACCCC CTGCGCTTCG
GAATAGGCG GCCTTTGCCA CGTAACCTTG CGCTAAGGG GCACGGTCT CAGTCCATTC ATGCGGGATA TCTCAGATAT CCGGTGCGG GAACCGAAGC

4001 TTAGAACCG GCTACAATTA ATACATAACC TTTTGGATCG ATCCTACTGA CACTGACATC CACTTTTCT TTTTCTCCAC AGGTGTCCAC TCCCAGGTCC
AATCTTGGC CGATGTTAAT TATGTATTGG AAAAAGCTAG TAGGATGACT GTGACTGTAG GTGAAAAAGA AAAAGAGGTG TCCACAGGTG AGGGTCCAGG

4101 AACTGCACCT CGGTTCCGA AGTAGCTTG GGCTGCATCG ATTGAATTCC ACCATGGGAT GGTATGTAT CATCCTTTT CTAGTAGCAA CTGCAACTGG
TTGACGTGGA GCCAAGCGCT TCGATCGAAC CCGACGTAGC TAACTTAAGG TGGTACCCTA CCAGTACATA GTAGGAAAAA GATCATCGTT GACGTTGACC

4201 AGTACATTCA GATATCCAGA TGACCCAGTC CCGAGCTCC CTGTCCGCCT CTGTGGGGA TAGGTCACC ATCAGCTGCA AGGCCAGTCA GGATGTGTCT
TCATGTAAGT CTATAGGTT ACTGGTCTAG GGGCTCGAG GACAGCGGA GACACCCGCT ATCCAGTGG TAGTGGACGT TCCGCTCAGT CCTACACAGA

4301 ATTGGTGTG CTGGTATCA ACAGAAACCA GGAAGCTC GAAACTACT GATTTACTCG GCTTCTTACC GATACACTGG AGTCCCTTCT CGTCTCTCTG
TAACCACAGC GGACCATAGT TGTCTTTGGT CCTTTTCGAG GCTTTGATGA CTAAATGAGC CGAAGGATGG CTATGTGACC TCAGGGAAGA GCGAAGAGAC

4401 GATCCGGTTC TGGACGGAT TTCACCTCTGA CCATCAGCAG TCTGCAGCCA GAAGACTTCG CAACTTATTA CTGTCAACAA TATTATATTT ATCCTTACAC
CTAGGCCAAG ACCCTGCCTA AAGTAGACT GGTAGTCGT AGACGTGGT CTTCTGAAGC GTTGAATAAT GACAGTTGTT ATAATATAAA TAGGAATGTG

4501 GTTTGGACAG GGTACCAAG TGGAGATCAA ACGAACTGTG GCTGCACCAT CTGTCTTCAT CTTCCCGCCA TCTGATGAGC AGTTGAAATC TGGAACTGCT
CAAACTGTC CCATGGTTCC ACCTTAGTT TGCTTGACAC CGACGTGGTA GAAGGGCGGT AGACTACTCG TCAACTTTAG ACCTTGACGA

4601 TCTGTTGTG GCCTGCTGAA TAACTTCTAT CCCAGAGAG CCAAGTACA GTGGAAGGTG GATAACGCC TCCATCGGG TAACTCCCAG GAGAGTCTCA
AGACAACACA CGGACGACTT ATTGAAGATA GGTCTCTCC GGTTCATGT CACTTCCAC CTATTGCGG AGGTAGGCC ATTGAGGTC CTCTCAGT

4701 CAGAGCAGGA CAGCAAGGAC AGCACCCTACA GCCTCAGCAG CACCCTGACG CTGAGCAAG CAGACTACA GAACACAAA GTCTACGCC GTGAACTCAC
GTCTCGTCT GTCTCTCTG TCGTGGATGT CGGAGTCGT GTGGGACTGC GACTCGTTTC GTCTGATGCT CTTTGTGTTT CAGATGCGGA CGCTTCAGTG

4801 CCATCAGGCG CTGAGTCCG CCGTCACAAA GAGCTTCAAC AGGGAGAGT GTTAAGCTTC GATGGCGGC ATGCCCCAAC TTGTTTATTG CAGCTTATTA
GGTAGTCCG GACTCGAGC GGCAGTGT TCCCTCTCA CAATTCGAG CTACCGCGG TACCGGTTG AACAAATAAC GTCGAATATT

4901 TGGTTACAAA TAAAGCAATA GCATCACAAA TTTCAAAAT AAAGCATTTT TTTCACTGCA TTTCTAGTTGT GGTGTGTTCA AACTCATCAA TGTATCTAT
ACCAATGTTT ATTTCTGTTAT CGTAGTGT TTAAGTGT TTTCTGTA AAAGTGAGT AAAGTCAACA CCAACACAGT TTGAGTAGTT ACATAGAAAT

5001 CATGCTCTGA TCGGGAATTA ATTCGGCGCA GCACCATGGC CTGAATAAG TTTAAACCT CTGAAAGAGG AACTTGGTTA GGTACCGACT AGTAGCAAGG
GTACAGACCT AGCCCTTAAT TAAGCGCGT CGTGATCCG GACTTTATTC AATTTTGGGA GACTTTCTCC TTGAACCAAT CCATGGCTGA TCATCCGTTCC

Figure 7-3

5101 TCGCCACGCA CAAGATCAAT ATTAACAATC AGTCATCTCT CTTTAGCAAT AAAAAGGTGA AAAATTACAT TTTAAAAATG ACACCATAGA CGATGTATGA
AGCGGTGGGT GTTCTAGTTA TAATGTGTAG TCAGTAGAGA GAATCGTA TTTTCCACT TTTTAATGTA AAATTTTAC TGTGGTATCT GCTACATACT
5201 AAATAATCTA CTTGGAAATA AATCTAGGCA AAGAGTGCA AGACTGTTAC CCAGAAAAC TACAAAATTGT AAATGAGAGG TTAGTGAAGA TTTTAAATGAA
TTTATTAGAT GAACCTTTAT TTAGATCCGT TTCTTCACGT TCTGACAATG GGTCTTTTGA ATGTTTAAACA TTTTACTCTCC AATCACTTCT AAATTTACTTT
5301 TGAAGATCTA AATAAACTTA TAAATTGTGA GAGAAATTA TGAATGTCTA AGTTAATGCA GAAACGGAGA GACATACTAT ATTCAATGAAC TAAAAAGACTTT
ACTTCTAGAT TTATTTGAAT ATTTAACACT CTCCTTAAT ACTTACAGAT TCAATTACGT CTTTGCCTCT CTGTATGATA TAAGTACTTG ATTTTCTGAA
5401 AATATTGGA AGGTATACTT TCTTTTCACA TAAATTTGTA GTCAATATGT TCACCCCAAA AAGACTGTTT GTTAACTTGT CAACCTCAT TCAAAAATCTA
TTATAACACT TCCATATGAA AGAAAAGTGT ATTTAAACAT CAGTTATACA AGTGGGGTTT TTTTCGACAAA CAATTTGAACA GTTGGAGTAA AGTTTATCAT
5501 TATAGAAAGC CCAAGACAA TAACAAAAAT ATTCTTGTAG AACAAAATGG GAAAGAAATGT TCCACTAAAT ATCAAGATTT AGAGCAAGC ATGAGATGTG
ATATCTTTTCG GGTTCCTGTT ATTTGTTTTA TAAGAACATC TTGTTTACC CTTTCTTACA AGGTGATTTA TAGTCTTAAA TCTCGTTTCG TACTCTACAC
5601 TGGGGATAGA CAGTGAGGCT GATRAAATAG AGTAGAGTC AGAAACAGAC CCATTGATAT ATGTAAGTGA CCTATGAAA AAATATGGCA TTTTACAAATG
ACCCCTATCT GTCACTCCGA CTATTTTATC TCATCTCGAG TCTTTGCTG GGTAACTATA TACATTCACT GGATACTTTT TTTTATACCGT AAAATGTTAC
5701 GGAATAATGAT GATCTTTTTC TTTTATTAGAA AAACAGGGAA ATATATTAT ATGTAATAAA TAAAGGGGAA CCCATATGTC ATACCATACA CACAAAAAAA
CCTTTTACTA CTAGAAAAAG AAAAATCTT TTTTGCTCCCT TATATAATA TACATTTTAT ATTTCCCTT GGTATATACAG TATGGTATGT GTGTTTTTT
5801 TTCCAGTGAA TTATAAGTCT AAATGGAGAA GGCAAACTT TAAATCTTTT AGAAAATAAT ATAGAAGCAT GCCATCATGA CTTCACTGTA GAGAAAAAT
AAGGTCATCT AATATTCAGA TTTTACCTCT TTTTACCTCTT CCGTTTGA AATTTAGAAA TCTTTTATTA TATCTTCGTA CCGTAGTACT GAAGTCACAT CTCCTTTTAA
5901 TCTTATGACT CAAAGTCCCTA ACCACAAAGA AAAGATTGTT AATTAGATTG CATGAATAT AAGACTTAT TTTTAAAAATTA AAAAACCAAT AAAAAGAACTC
AGAACTACTGA GTTTCAGGAT TGGTGTCTCT TTTCTAACAA TTAATCTAAC GTACTTATAA TTTCTGAATAA AAATTTTAA TTTTGGTAA TTTCTTTTCAG
6001 AGGCCATAGA ATGACAGAAA ATATTGCAA CACCCAGTA AAGAGAAATG TAATATGCAG ATTTATAAAA GAAGTCTTAC AAATCAGTAA AAAATAAAAAC
TCCGGTATCT TACTGTCTTT TATAAACGTT GTGGGTCTAT TTCTCTAAC ATTATACGTC TAATATTTT CTTCAGAAATG TTTTACTCAT TTTTATTTTG
6101 TAGACAAAAA TTTGAACAGA TGRAAGAGAA ACTCTAAATA ATCATTACAC ATGAGAAACT CAATCTCAGA AATCAGAGAA CTATCATTTG ATATACACTA
ATCTGTCTTT AAATTTGCT ACTTCTCT TGAGATTAT TAGTAATG TGACTCTTGA GTTAGAGTCT TTAGTCTCTT GATAGTAAAG TATATGAT
6201 AATTAGAGAA ATATTAAAG GCTAAGTAA ATCTGTGGCA ATATTGATG TATATAACCT TGATGAGAAC AGTACTTTTAC CCCATGGCT
TTAATCTCT TATAATTTTC CGATTCAATG TAGACACCGT TATAACTACC ATATAATGGA ACTATACTAC ACTACTCTTG TCATGAAATG GGTATCCGA
6301 TCCTCCCAA ACCCTTACC CAGTATAAAT CATGACAAAT ATACTTAAA AACCATTACC CTATATCTAA CCAGTACTCC TCAAAACTGT CAAGGTCAATC
AGGAGGGGT TGGGAATGGG GTCATATTTA GTACTGTTTA TATGAATTT TGGTAATGG GATATAGATT GGTATGAGG AGTTTGTACA GTTCCAGTAG
6401 AAAAATAAGA AAGTCTGAG GAATGTCAA AACTAAGAGG AACCCAGGA GACATGAGAA TTATATGFAA TGTGGCATTC TGAATGAGAT CCCAGAACAG
TTTTTATCT TTTTACAGCT CTTGACAGTT TTGATTCTCC TTGGGTCTCT CTGTACTCTT AATATACAT ACACCGTAAG ACTTACTCTA GGTCTTTGTC
6501 AAAAAGAACA GTAGTAAAA AACTAATGAA ATATAAATA AGTTTGAAT TTAGTTTTTT TTAATAAAGA GTAGCATTA CACGGCAAG TCAATTTTCA
TTTTTCTGT CATCGATTTT TTGATTACTT TATATTATTT TCAAACTTGA AATCAAAAAA AATTTTTTCT CATCGTAAT GTGCCGTTC AGTAAAAAGTA
6601 ATTTTCTTG AACATTAAAT ACAAGTCTAT AATTAAAAAT TTTTAAATG TAGTCTGAA CATTTGCCAGA AACAGAAATTA CAGCAGCTAT CTGTGCTGTC
TAAAAAAGAC TTGTAATTTCA TGTTCAGATA TTAATTTTAA AAAAATTTTAC ATCAGACCTT GTAACGGTCT TTTCTCTCAT GTCTCGATA GACACACAG
6701 GCCTAACTAT CCATAGCTGA TTGGTCTAAA ATGAGATACA TCAACGCTCC TCCATGTTTT TTGTTTTCTT TTTTAAATGAA AAATTTTAT TTTTAAAGAG
CGATTGATA GGTATCGACT AACAGATTT TACTCTATGT AGTTGGGAGG AGGTACAAAA AACAAAAAGAA AAATTTACTT TTTGAAATAA AAAATTTCTCC
6801 AGTTTTCAGGT TCATAGCAAA ATTGAGAGGA AGGTACATTC AAGTGAAGGA AGTTTTCCTC TATTCCTAGT TTTACTGAGAG ATTGCAATCAT GAATGGGTGT

Figure 7-4

TCAAAAGTCCA AGTATCGTTT TAACTCTCCT TCCATGTAAG TCGACTCCT TCAAAAGGAG ATAAGGATCA AATGACTCTC TAAGTAGTA CTTTACCCACA
 6901 TAAATTTTGT CAAATGCTTT TTCTGTGTCT ATCAATATGA CCATGTGATT TTCTTCTTTA ACCTGTTGAT GGGACAAAT ACCTTAATTTG AATTTCAAAC
 ATTTAAACA GTTTACGAA AGACACAGA TAGTTTACT GGTACACTAA AAGAAGAAAT TGGACAACCTA CCCTGTTTAA TGCAATTAAC TAAAAGTTTG
 7001 GTTGAACCAC CCTTACATAT CTGGAATAAA TTCTACTTGG TTGTGGTGA TATTTTGTGA TACATTTCTT GATTCCTTTT GCTAATATTT TGTGAAAAAT
 CAACTTGGTG GGAATGTATA GACCTTATTT AAGATGAACC AACACCACAT ATAAAAAAT ATGTAAGAAC CTAAAGAAA CGATTATAA ACAACTTTTA
 7101 GTTTGTATCT TTGTTTATGA GAGATATGG TCTGTTGTTT TCTTTTCTTG TAATGTCATT TTCTAGTTCC GGTATTAAGG TAATGCTGGC CTAGTTGAAT
 CAACATAGA AACAGTACT CTCATAACC AGACAACAA AGAAAAGAAC ATTACAGTAA AAGATCAAGG CCATTAATCC ATTACGCCG GATCAACTTA
 7201 GATTTAGGAA GTATTCCTC TGCTTCTGTC TTCTGAGGTA CCGCGGCGC CGCTGTTT ACAAGTCTG GACTGGGAAA ACCCTGGCGT TACCCAACTT
 CTAATCTCTT CATNAGGGAG ACGAAGACAG AAGACTCCAT GCGCGCGCG GCGAGCAAAA TGTTGCAGCA CTGACCCCTT TGGGACGCCA ATGGGTGAA
 7301 AATCGCCTTG CAGCACATCC CCTTTGCGC AGCTGGGTA ATAGCGAAGA GGCCCGCAC GATCGCCCTT CCAACAGTT GCGCAGCTG AATGGCGAAAT
 TTAGCGGAAC GTCTGTAGG GGAAAGCGG TCGACGCTAT TATCGCTCT CCGGCGTGG CTAGCGGAA GGTGTGTCAA CCGCTCGGAC TTACCCGCTTA
 7401 GCGCCCTGAT CGCGTATTTT CTCCTTACGC ATCTGTGCGG TATTTACAC CGCATACGTC AAACAACCA TAGTAGCGC CCTGTAGCGG CGCATTAAGC
 CCGCGGACTA CGCCATAAAA GAGGAATGCG TAGACAGGCC ATAAAGTGT GCTATGCGG GTTCTGTTGG ATCATGCGG GGAATCGCC GCGTAATTCG
 7501 GCGGCGGTG TGGTGGTTAC GCGCAGCTG ACCGCTACAC TTGCCAGGC CTTAGCGCC GTCCTTTCC GTCCTTTCTC GCCACGTTCC
 CGCCGCCAC ACCACCAATG CGCGTGGCAG TGGCGATGT AACGTCGCG GATCGCGG GAGGAAAGC GAAAGAGG AAGGAAAGC CCGTGCAAGC
 7601 CCGGCTTTCC CCGTCAAGCT CTAATCGGG GGCTCCTTT AGGGTCCGA TTAGTGTCTT TACGGCACCT CGACCCCAA AAACCTGATT TGGGTGATGG
 GCGCGAAAG GGCAGTTCTGA GATTTAGCCC CCGAGGAAA TCCCAAGCT AAATCAGGA ATGCGGTGGA GCTGGGTTT TTTGAACTAA ACCCACTACC
 7701 TTCACGTAGT GGGCATCGC CCTGATAGAC GGTTTTTCG CCTTTGAGT TGAGTCCAC GTTCTTTAAT AGTGACTCT TGTTCAAAAC TGAACAACA
 AAGTGATCA CCGGTAGCG GACTATCTG CCAAAAGCG GAAACTGCA ACCTCAGGT CAAGAAATTA TCACCTGAGA ACAAGTTTG ACCTTGTTGT
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 GAGTTGGAT AGAGCCCGAT AAGAAAACTA AATATTTCCCT AAAACGGCTA AAGCCGGATA ACCAATTTT TACTCGACTA AATTTGTTTT AAATTTGCCCT
 7901 ATTTTAAACA AATATTAACG TTTACAATTT TATGTTGAC TCTCAGTACA ATCTGCTCTG ATGCGGCATA GTTAAGCCAG CCCCAGACCC CGCCAAACCC
 TAAAAATTGT TTATAATTGC AAATGTTAAA ATACCAGTG AGAGTCTGT TAGACGAGAC TACGGCGTAT CAATTCGGTC GGGCTGTGG GCGTTTCTGG
 8001 CCCTGACCG CCCTGACGG CTTGTCTGCT CCGCGCATCC GCTTACAGAC AAGCTGTGAC CGTCTCCGG AGCTGCATGT GTCAGAGTT TTTACCCGTTCA
 GCGACTGCG GCGACTGCC GAACAGACGA GGGCCGTAGG CGAATGCTG TTCGACACTG GCAGAGGCC TCGAGGTACA CAGTCTCCAA AAGTGGCAGT
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 AGTGGCTTTG CGGCTCTCT GCTTTCCCG AGCACTATGC GGATAAAAT ATCCAATTAC AGTACTATTA TTACCAAAGA ATCTGCAGTC CACCGTGAAA
 8201 TCGGGGAAT GTGCGGGAA CCCCTATTTG TTTATTTTC TAAATACATT CAAATATGTA TCCGCTCATG AGACAATAAC CCTGATAAAT GCTTCAATAA
 AGCCCTTTA CACGCGCCTT GGGGATAAAC AAATAAAAG ATTTATGTA GTTTATACAT AGCGGAGTAC TCTGTTATTG GGACTATTTA CGAAGTTAT
 8301 TATTTAAAAA GGAAGAGTAT GAGTATTCAA CATTTCCGTG TCGCCCTTAT TCCCTTTTGT GCGCATTTT GCCTTCTCTG TTTTGTCTAC CCAGAAACGC
 ATAACTTTT CCTTCTCATA CTCATAAGTT GTAAAGGCAC AGCGGGAATA AGGGAATAA CCGCGTAAAA CGGAAGGACA AAAAGGAGT GGTCTTTTGG
 8401 TGGTGAAGT AAAAGATGCT GAAGATCAGT TGGGTGACG AGTGGTTTAC ATCGAACTGG ATCTCAACAG CGGTAAGATC CTTGAGAGTT TTTCCGCCCA
 ACCACTTTCA TTTTCTACGA CTTCTAGTCA ACCCAGTGC TCACCCAAATG TAGCTTGACC TAGAGTTGTC GCATTTCTAG GAACTCTCAA AAGCGCGCT
 8501 AGAACGTTTT CCAATGATGA GCACTTTTAA AGTTCTGCTA TGTGGCGCG TATTATCCG TATTGACGCC GCGCAAGAGC AACTCGGTCG CCGCATACAC
 TCTTGCAAAA GGTACTACT CGTGAAAAAT TCAAGACGAT ACACCGGCC ATAATAGGC ATAAGTGGC CCGCTTCTCG TTGAGCCAGC GCGTATCTG

Figure 7-5

8601 TATTCTCAGA ATGACTTGGT TGAGTACTCA CCAGTCACAG AAAAGCATCT TACGGATGGC ATGACAGTAA GAGAAATTATG CAGTGTCTGCC ATAACCATGA
ATPAGAGTCT TACTGAACCA ACTCATGAGT GGTCTGTGTA TTTTCTGTGATA ATGCTTACCG TACTGTCTCAIT CTCTTAATAC GTCACGACGG TATTGGTACT

8701 GTGATAACAC TGCGGCCAAAC TTACTTCTGA CAACGATCGG AGGACCGAAG GAGCTAACCG CTTTTTTTGA CAACTATGGG GATCATGTAA CTCGCCCTTGA
CACTATTGTG ACGCCGGTTG AATGAAGACT GTTGCTAGCC TCCTGGCTTC CTCGATTGCG GAAAAAACGT GTTGTAACCC CTAGTACATT GAGCGGAAC

8801 TCGTTGGGAA CCGGAGCTGA ATGAAGCCAT ACCAAGGAC GAGCGTGACA CCACGATGCC TGTAACAATG GCAACAACGT TCGGCAAACT ATTAACCTGGC
AGCAACCCCTT GGCTCTGACT TACTCTGGTA TGGTTTCTG TGGCTACTGT CTCGCACTGT GGTGCTACGG ACATCGTTAC CGTTCTTGA ACGCGTTGA TAATTGACCG

8901 GAACTACTTA CTCTAGCTTC CCGGCAACAA TTAATAGACT GGATGGAGC GGATAAAGTT GCAGGACCAC TTCTGCGCTC GGCCCTTCCG GCTGGCTGGT
CTTGATGAAT GAGATCGAAG GCGCGTTGTT AATTATCTGA CCTACCTCCG CCTATTTCAA CGTCTGGTG AAGACGGAG CCGGGAAGG CGACCGACCA

9001 TTATTGCTGA TAAATCTGGA GCCGGTGAGC GTGGTCTCG CGGTATCATT GCAGCACTGG GGCAGATGG TAAGCCCTCC CGTATCGTAG TTATCTACAC
AATAACGACT ATTTAGACCT CGGCCACTCG CACCAGAGC GCCATAGTAA CGTCTGACC CCGTCTACC ATTCGGGAGG GCATAGCATC AATAGATGTG

9101 GACGGGAGT CAGGCAACTA TGGATGAACG AAATAGACAG ATCGCTGAGA TAGGTGCTC ACTGATTAG CATTGGTAAC TGTCAGACCA AGTTTACTCA
CTGCCCTCA GTCCGTTGAT ACCTACTTGC TTTATCTGTC TAGCGACTCT ATCCACGGAG TCACTAATTC GTAACCATG ACAGTCTGGT TCAATGAGT

9201 TATATACTTT AGATTGATTT AAAACTTCTAT TTTTAATTTA AAAGATCTA GGTGAAGATC CTTTTTGATA ATCTCATGAC CAAAATCCCT TAACGTGAGT
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9301 TTTCTGTTCCA CTGAGCGTCA GACCCCGTAG AAAAGATCAA AGGATCTTCT TGAGATCTCT TTTTCTCGC CGTAATCTGC TCCTTGCAAA CAAAAAACC
AAAGCAAGGT GACTCGCAGT CTGGGGCATC TTTTCTAGT TCCTAGAAGA ACTTAGGAA AAAAGACGC GCATTAGAGC ACGAACGTTT GTTTTCTTGG

9401 ACCGCTACCA GCGGTGTTT GTTTGCCGA TCAAGAGCTA CCAACTCTTT TTCCGAAGGT AACTGGCTTC AGCAGAGCGC AGATACCATA TACTGTCTTT
TGGCGATGGT CGCCACCAA CAAACGGCT AGTTCTCGAT GGTGAGAAA AAGGCTTCCA TTGACCGAAG TGTCTCGG TCTATGTTT ATGACAAGAA

9501 CTAGTGTAGC CGTAGTTAGG CCACCCTTC AAGAACTCTG TAGCACCGCC TACATACCTC GCTCTGTAA TCCTGTTACC AGTGGCTGCT GCCAGTGGCG
GATCACATCG GCATCAATCC GGTGTGAAG TTCTTGAGAC ATCTGTCGCG ATGTATGGAG CGAGACGATT AGGACAATGG TCACCCGACCA CGGTCAACCGC

9601 ATAAGTCTG TCTTACCGG TTGGACTCAA GACGATAGT ACCGGATAAG GCGCAGCGGT CGGGCTGAAC GGGGGTTCG TGCACACAGC CCAGCTTGA
TATTACAGC AGAATGGCCC AACCTGAGT CTGCTATCAA TGGCTATTTC CGCGTCGCCA GCCGACTTG CCCCCAAGC ACGTGTGTCG GGTCCAACTT

9701 GCGAACGACC TACACCGAAC TGAGATACCT ACAGCGTGA CTATGAGAAA GCGCCACGCT TCCCGAAGG AGAAAGCGG ACAGGTATCC GGTAAAGCGC
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9801 AGGCTCGGAA CAGGAGAGCG CACGAGGAG CTTCCAGGGG GAAACGCCCT GTATCTTTAT AGTCTGTGCG GGTTCGCCA CCTCTGACTT GAGCTCTGAT
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9901 TTTTGTGATG CTCGTACGGG GGGCGGAGC TATGGRAAAA CCGCAGCAAC GCGCCCTTTT TACGCTTCTT GGCCTTTTGC TGGCTTTTTC CTACATCTTT
AAAACACTAC GAGCAGTCCC CCGCCTCGG ATACCTTTT GGGTCTGTG CGCGGAAAA ATGCCAAGGA CCGGAAAAAC ACCGAAAAAC GACTGTACAA

10001 CTTTCTCTCG TTATCCCTCG ATTCTGTGGA TAACCGTATT ACCGCTTTG AGTGAGCTCA TACCGCTCGC CGCAGCCGAA CGACCGAGCG CAGCGAGTCA
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10101 GTGAGCGAGG AAGCGGAAGA GCCCGGGG AAGTTCGCCA GGCACAAGAT CAATATTAAC AATCAGTCTAT CTCTCTTTAG CAATAAAAAG GTGAAAAAT
CACTCGCTCC TTCCGCTTCT CCGCGGCCCG TTCCAGCGGT GCGTGTCTTA GTTATAATTG TTAGTCAGTA GAGAGAAATC GTTATTTTTC CACTTTTFAA

10201 ACATTTTAAA AATGACACCA TAGACGATGT ATGAAATAA TCTACTTGA AATAAATCTA GCGAAGAGAG TGCAAGACTG TTACCAGAA AACTTACAAA
TGTAATAATTT TTACTGTGAT ATCTGTACA TACTTTTATT AGATGAACCT TTATTTAGAT CCGTTTCTTC ACGTTCTGAC AATCGGTCTT TTGAATGTTT

10301 TTGTAATGA GAGTTAGTG AAGATTTAA TGAATGAAGA TCTAATAAA CTTATAAAT TTGAGAGAAA TTATGAATG TCTAAGTTAA TGCAGAAACG
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Figure 7-6

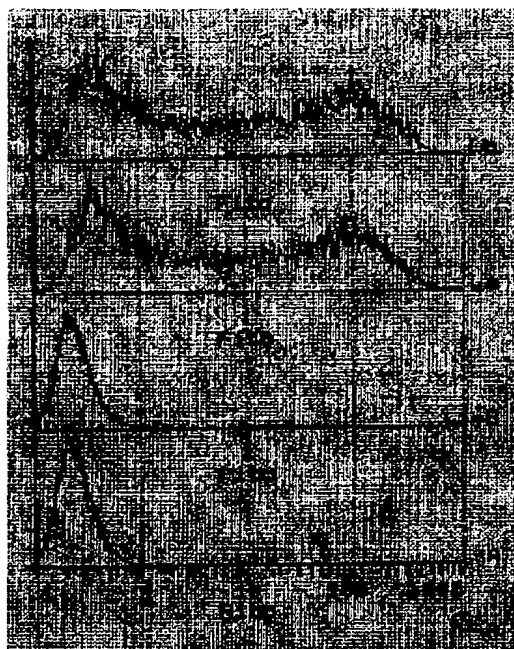
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CACTGGATAC TTTTTTTATA CCGTAAATG TTACCCCTTT ACTACTAGAA AAAGAAAAA TCTTTTTGTC CTTTATATA AATATACATT TTTTATTTC
10801 GGAACCCATA TGTCTACCA TACACACAAA AAATTTCCAG TGAATTATTA GTCTAAATGG AGAAGCAAA ACTTTAAATC TTTTAGAAAA TAATATAGAA
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10901 GCATGCCATC ATGACTTCAG TGTAGAGAAA AATTTCTPAT GACTCAAGT CCTAACACA AAGAAAGAT TGTAAATTAG ATTGCATGAA TATTAAAGACT
CGTACGGTAG TACTGAAGTC ACATCTCTT TTAAGAATA CTGAGTTTCA GGATTTGTTT TCTTTTCTA ACAATTATC TAACGTACTT ATAATTCTGA
11001 TATTTTTTAA ATTAATAAAC CATTAAGAAA AGTCAGGCC TAGAATGACA GAAATATTT GCAACACCCC AGTAAAGAGA ATTGTAATAT GCAGATTATA
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11101 AAAAGAAGTC TTACAAATCA GTAAAAATA AAAC TAGACA ABAATTTGAA CAGATGAAAG AGAACTCTA AATAATCATT ACACATGAGA AACTCAATCT
TTTTCTTTCAG AATGTTTAGT CATTTTTTAT TTGTATCTGT TTTTAAACTT GTCTACTTTC TCTTTGAGAT TTATTAGTAA TGTGTACTCT TTGAGTTAGA
11201 CAGAAATCAG AGAATATCA TTGCATATAC ACTAAATTAG AGAAATATTA AAAGCTAAG TAACATCTGT GGCAATATG ATGGTATATA ACCTTGATAT
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11301 GATGTGATGA GAACAGTACT TTACCCCATG GGCTTCTCC CCAACCCCTT ACCCAGTAT AATCATGAC AAATATACTT TAAAAACAT TACCCTATAT
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GATTGGTCAT GAGGAGTTT GACAGTTCCA GTAGTTTTTA TTCTTTTCCAG ACTCCTTGAC AGTTTGTATT CTCTTGGGT TCCTCTGTAC TCTTAATATA
11501 GTAATGTGGC ATCTGGAATG AGATCCAGA ACAGAAAG AACAGTAGCT AAAAACTAA TGAATATATA ATAAAGTTG AACTTTAGTT TTTTTTAAAA
CATTACACCG TAAGACTTAC TCTAGGTCT TGTCTTTTC TTGTATCGA TTTTGTGATT ACTTATATAT TATTTCAAA TGAATATCAA AAAAAATTTT
11601 AAGAGTAGCA TTAACACGGC AAAGTCATTT TCATATTTTT CTGAAACATT AAGTACAAGT CTATAATTA CTATAATTA AATTTTCTT AATGTACTCT GGAACATTGC
TTCTCATCGT AATTTGTGCG TTTTCAGTAA AGTATAAAA GAACTTGTA GAACTTGTTCA GATATTAAT TTTAAAAAAT TTACATCAGA CCTTGTAAAG
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11801 TCTTTTTTAA TGAATAACTT TATTTTTTAA GAGGAGTTTC AGGTTCATAG CAAATTCAG AGAAGGTAC ATTCAAGCTG AGAAGTTT CCTTATTC
AGAAAAATTT ACTTTTTGAA ATAAAAAAT CTCCTCAAG TCCAAGTATC GTTTAACTC TCCTTCCATG TAAGTTCGAC TCCTTCAAAA GGAGATAAGG
11901 TAGTTTACTG AGAGATTGCA TCATGAATGG GTGTTAAAT TTGTCAATG CTTTCTCTGT GTCTATCAAT ATGACATGT GATTTTCTTC TTTAACCTGT
ATCAATGAC TCTCTAACGT AGTACTTACC CACAATTA AACAGTTTAC GAAAAAGACA CAGATAGTTA TACTGGTACA CTAAAGAAG AAATTTGGACA
12001 TGATGGGACA AATTACGTTA ATGATTTTC AAACCTTAC ATATCTGAA TAAATTTCTAC TTGGTTGTGG TGTATATTTT TTGATACATT
ACTACCTGT TTAATGCAAT TAACTAAAAG TTTGCAACTT GGTGGGATG TATAGACCTT ATTTAAGATG AACCAACACC ACATATAAAA AACTATCTAA
12101 CTGGATTCT TTTTGCTAAT ATTTGTGTA AATGTTTGT ATCTTTCTTC ATGAGAGATA TTGGTCTGTT GTTTTCTTTT CTGTAAATGT CATTTTCTAG

Figure 7-7

GAACCTAAGA AAAACGATTA TAAACAACCT TTTACAACA TAGAACAAG TACTCTCTAT AACAGACAA CAAAAGAAA GAACATTACA GTAAAAGATC
 12201 TTCCGGTATT AAGGTAATGC TGGCTAGTT GAATGATTTA GGAAGTATTC CCTCTGCTTC TGTCTTCTGA AGCGGAAGAG CGCCCAATAC GCAAAACCGCC
 AAGGCCATAA TTCCATTACG ACCGATCAA CTTACTAAT CCTTCATAAG GGAGACGAAG ACAGAAGACT TCGCCTTCTC GCGGGTTATG CGTTTGGCGG
 12301 TCTCCCCGGG CGTTGGCCGA TTCATTANTG CAGCTGGCAC GACAGGTTTC CCGACTGGAA AGCGGGCAGT GAGCGCAACG CAATTAATGT GAGTTAGCTC
 AGAGGGGCGC GCAACCGGCT AAGTAATTAC GTCGACCGTG CTGTCCAAG GGTGACCTT TCGCCCGTCA CTCGGTTGC GTTAATTACA CTCAATCGAG
 12401 ACTCATTAGG CACCCAGGC TTTACACTTT ATGCTTCCGG CTCGTATGTT GTGTGGAATT GTGAGCGGAT AACAAATTCA CACAGGAAAC AGCTATGACA
 TGAGTAATCC GTGGGTCG AATGTGNA TACGAAGGCC GAGCATACAA CACACCTTAA CACTCGCCTA TTGTTAAAGT GTGTCCTTG TCGATACTGT
 12501 TGATTACGAA TTAA
 ACTAATGCTT AAT

>length: 12514

Figure 7-8



% GFP

**% Viability
(PI Staining)**

70.9

50.2

68.7

60.9

1.6

69.7

1.2

94

Figure 8. FACS analysis of transiently transfected CHO cells with a GFP plasmid in 250 ml spinner transfection.

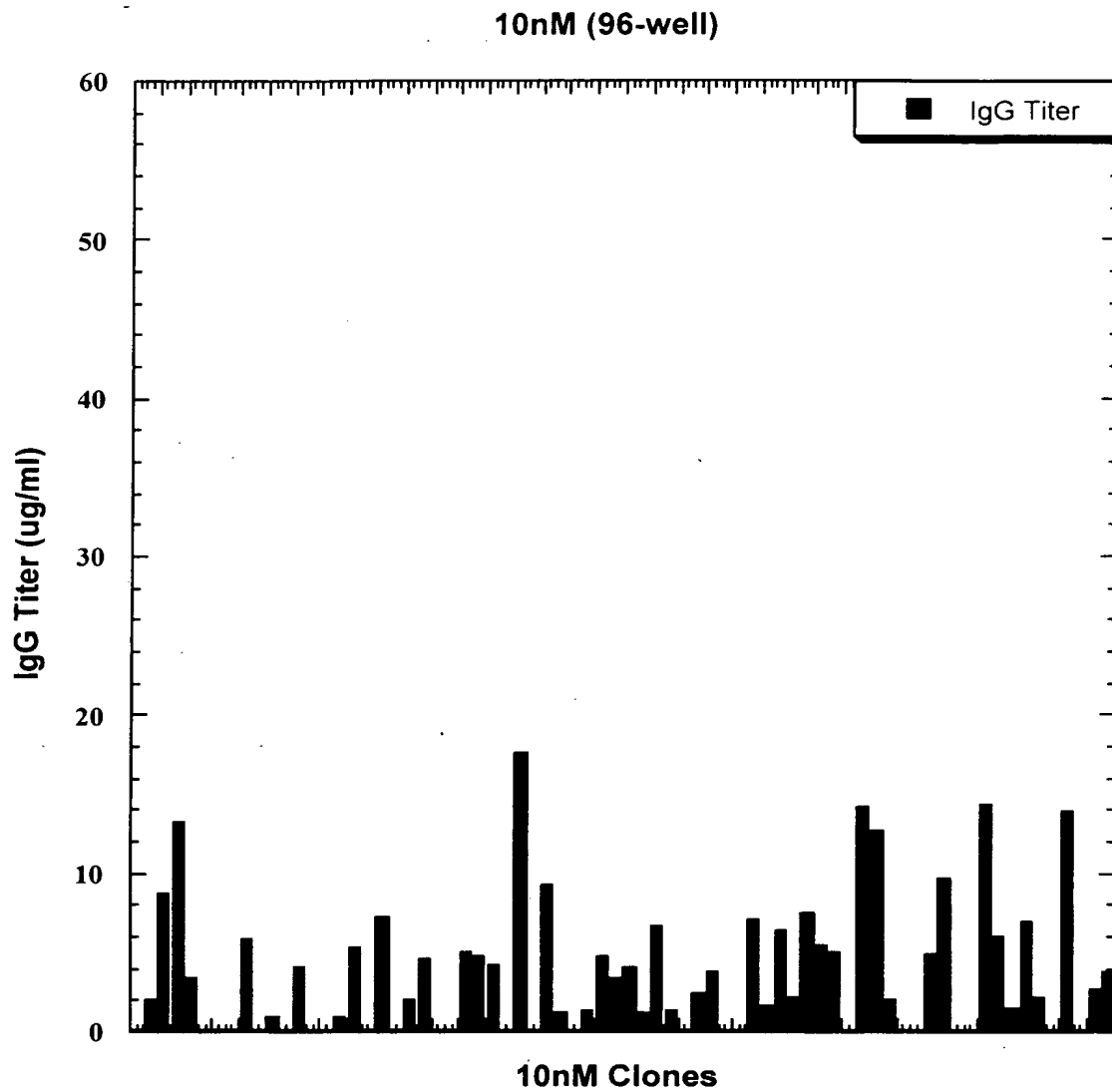


Figure 9. Expression level of clones from traditional 10 nM MTX selection.

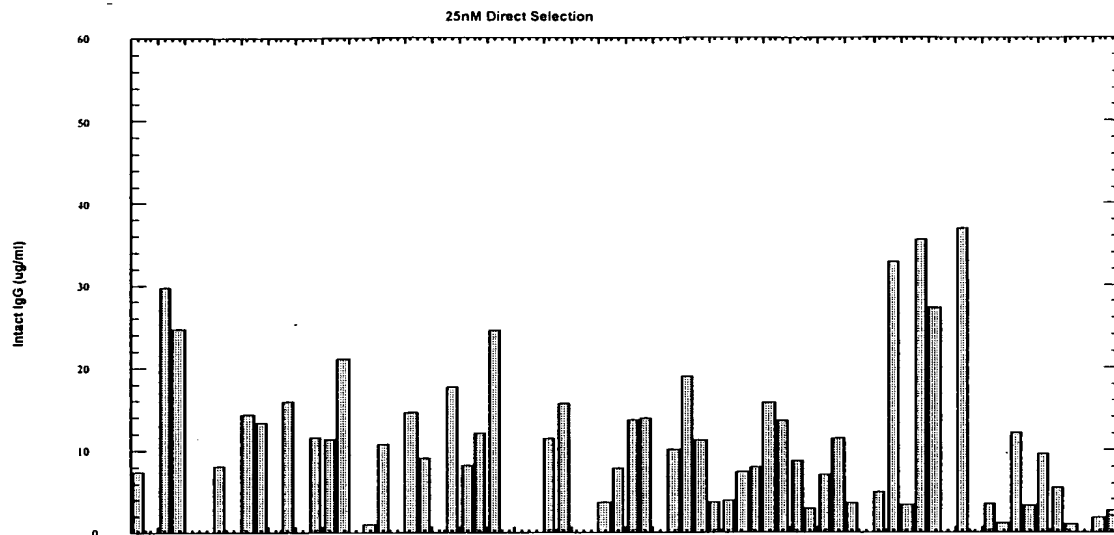


Figure 10-1

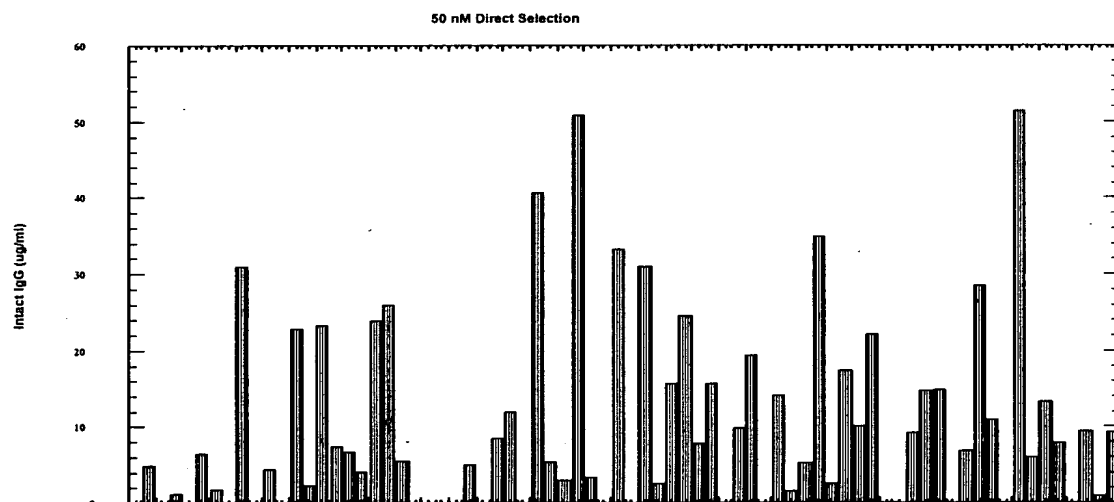


Figure 10-2

Figures 10.1 and 10.2. Expression level of clones from 25 and 50 nM MTX direct selections of SV40-based constructs derived from spinner transfection, respectively.

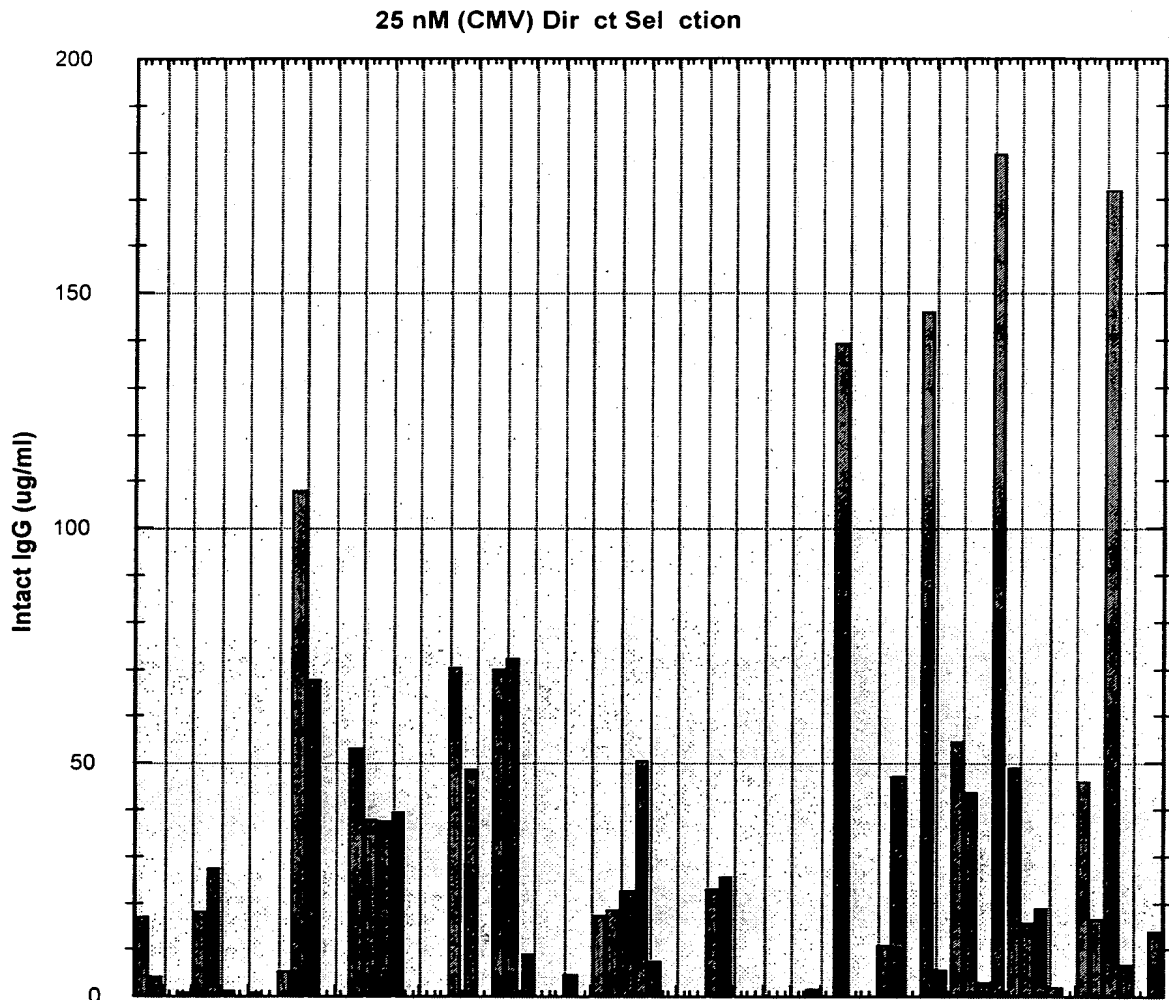


Figure 11. Expression level of clones from 25 nM MTX direct selection of CMV construct derived from spinner transfection.

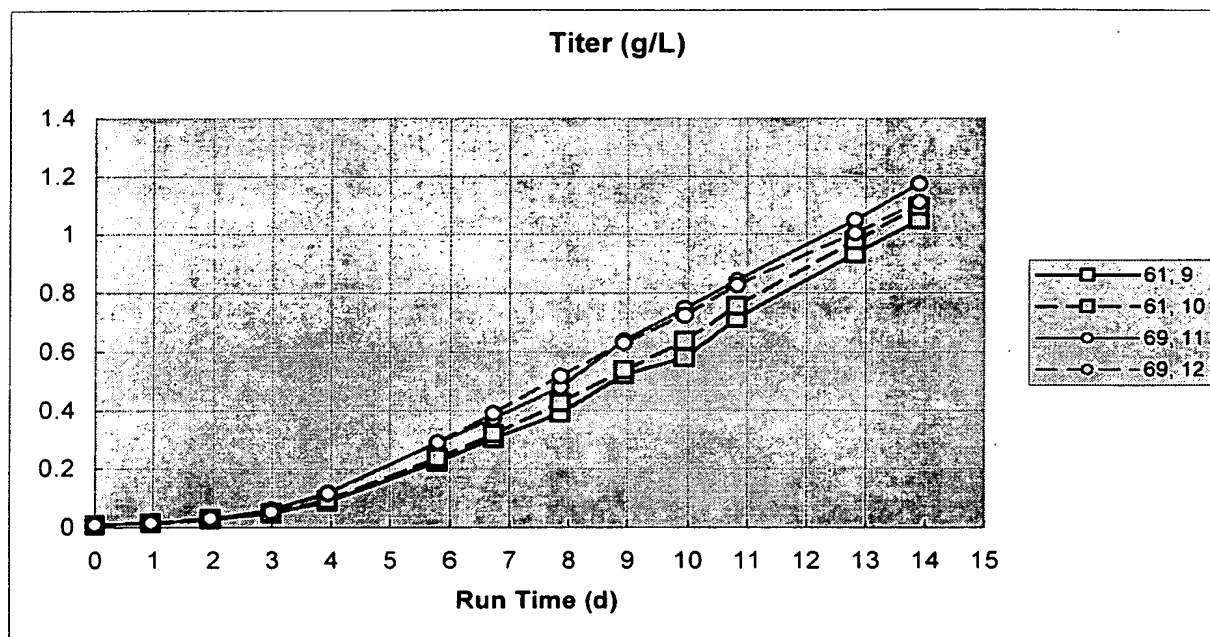


Figure 12. Titer Evaluation in Miniferm.

Figure 13. Plasmid pCMV.IPD.Heterologous Polypeptide

```
5      <400>
60      TTCGAGCTCG CCCGACATTG ATTATTGACT AGAGTCGATC ACCGGTAGTA ATCAATTACG
120     GGGTCATTAG TTCATAGCCC ATATATGGAG TTCCGCGTTA CATAACTTAC GGTAAATGGC
180     CCGCCTGGCT GACCGCCCCA CGACCCCCCG CCATTGACGT CAATAATGAC GTATGTTCCC
240     ATAGTAACGC CAATAGGGAC TTTCCATTGA CGTCAATGGG TGGAGTATTT ACGGTAAACT
300     GCCCACTTGG CAGTACATCA AGTGATATCAT ATGCCAAGTA CGCCCCCTAT TGACGTCAAT
360     GACGGTAAAT GGCCGCGCTG GCATTATGCC CAGTACATGA CCTATATGGA CTTTCCTACT
420     TGGCAGTACA TCTACGTATT AGTCATCGCT ATTACCATGG TGATGCGGTT TTGGCAGTAC
480     ATCAATGGGC GTGGATAGCG GTTTGACTCA CGGGGATTTC CAAGTCTCCA CCCCATTGAC
540     GTCAATGGGA GTTTGTTTTG GCACCAAAAT CAACGGGACT TTCCAAAATG TCGTAACAAC
600     TCGGCCCCAT TGACGCAAAAT GGGCGGTAGG CGTGACGGT GGGAGGTCTA TATAAGCAGA
660     GCTCGTTTAG TGAACCGTCA GATCGCCTGG AGACGCCATC CACGCTGTTT TGACCTGGGC
720     CCGGCCGAGG CCGCCTCGGC CTCTGAGCTA TTCCAGAAGT AGTGAGGAGG CTTTTTTGGA
780     GGCCTAGGCT TTTGCAAAAA GCTAGCTTAT CCGGCCGGGA ACGGTGCATT GGAACGCGGA
840     TTCCCGGTGC CAAGAGTGAC GTAAGTACCG CCTATAGAGC GACTAGTCCA CCATGACCGA
900     GTACAAGCCC ACGGTGGGCC TCGCCACCCG CGACGACGTC CCGCGGCGCG TACGCACCCCT
```

Figure 13.1

960 CGCCGCCGCG TTCCGCCGACT ACCCCGCCAC GCGCCACACC GTAGACCCCG ACCGCCACAT
 1020 CGAGCGGGTC ACCGAGCTGC AAGAACTCTT CCTACGGGC GTCGGGCTCG ACATCGGGCAA
 1080 GGTGTGGGTC GCGACGACG GCGCCGCGGT GCGGTCTGG ACCACGCCGG AGAGCGTCGA
 1140 AGCGGGGGCG GTGTGCGCG AGATCGGCC GCGCATGGCC GAGTTGAGCG GTTCCCGGCT
 1200 GGCCGCGCAG CAACAGATGG AAGGCCCTCT GCGCCCGCAC CGGCCAAGG AGCCCGCGTG
 1260 GTTCCTGGCC ACCGTCGGCG TCTGCCCGA CCACCAGGC AAGGTCTGG GCAGCGCGGT
 1320 CGTGCTCCC GGAGTGGAGG CGGCCGAGCG CGCCGGGGTG CCCGCCCTCC TGGAGACCTC
 1380 CGCGCCCCGC AACCTCCCCT TCTACGAGCG GCTCGGCTTC ACCGTCACCG CCGACGTCGA
 1440 GGTGCCCCGAA GGACCGCGCA CCTGGTGCA TACCCGCAAG CCCGTGCCA ACATGGTTCTG
 1500 ACCATTGAAC TGCACTGTCG CCGTGTCCTA AAATATGGG ATTGCAAGA ACGGAGACCT
 1560 ACCCTGGCCT CCGCTCAGGA ACGCGTTCAA GTACTTCAA AGAATGACCA CAACCTCTTC
 1620 AGTGGGAAGT AAACAGAATC TGGTGATTAT GGGTAGGAAA ACCTGGTTCT CCATTCTCTGA
 1680 GAAGAATCGA CCTTTAAAGG ACAGAAATTA TATAGTTCTC AGTAGAGAAC TCAAAGAACC
 1740 ACCACGAGGA GCTCATTTTC TTGCCAAAAG TTGGATGAT GCCTTAAGAC TTATTGAACA
 1800 ACCGGAATTG GCAAGTAAAG TAGACATGGT TTGGATAGTC GGAGGCAGTT CTGTTTACCA
 1860 GGAAGCCATG AATCAACCAG GCCACCTCAG ACTCTTTGTG ACAAGGATCA TGCAGGAATT
 1920 TGAAGTGAC ACGTTTTTCC CAGAAATTGA TTGGGGGAAA TATAAACCTC TCCCAGAATA
 1980 CCCAGGCGTC CTCTCTGAGG TCCAGGAGGA AAAAGGCATC AAGTATAAGT TTGAAGTCTA

Figure 13.2

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2040 CGAGAAGAAA GACTAACGTT AACTGCTCCC CTCTAAAGC TATGCATTTT TATAAGACCA
2100 TGAGACTTTT GCTGGCTTTA GATCCCCTTG GCTTCGTTAG AACGCAGCTA CAATTAATAC
2160 ATAACTTAT GTATCATACA CATACGATTT AGGTGACACT ATAGAAATAAC ATCCACTTIG
2220 CCTTCTCTC CACAGGTGC CACTCCCAGG TCCAAC TGCA CCTCGGTCT ATCGATTGAA

      TTCACC  --Insert Sequence of Interest--

      CGA TGGCCGCCAT GGCCCAACTT GTTTATTGCA GCTTATAATG

      GTTACAAATA AAGCAATAGC ATCACAAATT TCACAAATAA AGCATTTTTT TCACTGCATT
      CTAGTTGTGG TTTGTCCAAA CTCATCAATG TATCTTATCA TGTCTGGATC GGGAAATTAAT
      TCGGGCAGC ACCATGGCCT GAAATAACCT CTGAAAGAGG AACTTGGTTA GTACCTATT
      AATAGTAATC AATTACGGGG TCATTAGTTC ATAGCCCATATA TATGGAGTTC CGCGTTACAT
      AACTTACGGT AAATGGCCCG CCTGGCTGAC CGCCCAACGA CCCCCGCCCA TTGACGTCAA
      TAATGACGTA TGTTCGCATA GTAACGCCAA TAGGGACTTT CCATTGACGT CAATGGGTGG
      AGTATTTACG GTAAACTGCC CACTTGGCAG TACATCAAGT GTATCATATG CCAAGTACGC
      CCCCTATTGA CGTCAATGAC GGTAATGGC CCGCTGGCA TTATGCCCAG TACATGACCT
      TATGGGACTT TCCTACTTGG CAGTACATCT ACGTATTAGT CATCGCTATT ACCATGGTGA
      TGGGTTTTG GCAGTACATC AATGGGCGTG GATAGCGGTT TGA CTACAGG GATTTCCAA
      GTCTCCACCC CATTGACGTC AATGGGAGTT TGTTTTGGCA CCAAAATCAA CGGGACTTTC
      CAAAATGTCT TAACAACCTCC GCCCCATTGA CGCAAATGGG CGGTAGGCGT GTACGGTGGG

```

Figure 13.3

AGTCTATAT AAGCAGAGCT CGTTTAGTGA ACGTCAGAT CGCCTGGAGA CGCCATCCAC
 GGTGTTTTGA CCTGCTAGCT TATCCGGCCG GGAACGGTGC ATTGGAACGC GGATTCCCCG
 TGCCAAGAGT CAGGTAAGTA CCGCCTATAG AGTCTATAGG CCCACCCCTT TGGCTTCGTT
 AGAACGGGGC TACAATTAAT ACATAACCTT TTGGATCGAT CCTACTGACA CTGACATCCA
 CTTTTTCTTT TTCTCCACAG GTGTCCACTC CCAGGTCCAA CTGCACCTCG GTTCGGGAAG
 CTCGCTTGGG CTGCATCGAT TGAATTCCAC C --Insert Sequence of Interest--
 CGATGG CCGCCATGGC CCAACTTGTT TATTGCAGCT TATAATGGTT
 ACAAATAAAG CAATAGCATC ACAAATTTCA CAAATAAAGC ATTTTITTTCA CTGCATTCTA
 GTGTGGTTT GTCCAAATC ATCAATGTAT CTTATCATGT CTGGATCGGG AATTAATTCTG
 GCGCAGCACC ATGGCCTGAA ATAAGTTTAA ACCCTCTGAA AGAGGAACCT GGTAGGTAC
 CGACTAGTCT TTTGCAAAAA GCTGTTACCT CGAGCGGCCG CTTAATTAAAG GCGCGCCATT
 TAAATCCTGC AGGTAAACAGC TTGGCACTGG CCGTCGTTTT ACAACGTCGT GACTGGGAAA
 ACCCTGGCGT TACCCAACTT AATCGCCTTG CAGCACATCC CCCTTTCGCC AGCTGGCGTA
 ATAGCGAAGA GGCCCGCACC GATCGCCCTT CCCAACAGTT GCGCAGCCTG AATGGCGAAT
 GCGGCTGAT GCGGTATTTT CTCCTTACGC ATCTGTGCGG TATTTCACAC CGCATACGTC
 AAAGCAACCA TAGTACGGC CCTGTAGCGG CGCATTAAAG GCGGCGGGTG TGGTGGTTAC
 GCGCAGCGTG ACCGCTACAC TTGCCAGCGC CTTAGCGCCC GCTCCTTTCG CTTTCTTCCC
 TTCTCTTCTC GCCACGTTTCG CCGGCTTTTC CCGTCAAGCT CTAAATCGGG GGCTCCCTTT

Figure 13.4

AGGGTTCCGA TTTAGTGTCTT TACGGCACCT CGACCCCAAA AAACCTTGATT TGGGTGATGG
TTACGCTAGT GGGCCATCGC CCTGATAGAC GGTTTTTCGC CCTTTGACGT TGGAGTCCAC
GTTCTTTAAT AGTGGACTCT TGTTCCAAAC TGAACAACA CTCAACCCTA TCTCGGGCTA
TTCCTTTTGAT TTATAAGGGA TTTTGCCGAT TTCGGCCTAT TGGTTAAAAA ATGAGCTGAT
TTAACAAAAA TTTAACGCGA ATTTTAACA AATATTAACG TTTACAAATTT TATGGTGCAC
TCTCAGTACA ATCTGTCTCTG ATGCCGCATA GTTAAGCCAG CCCCAGACAC GCCCCGACAC
CCGCCAACAC CCGCTGACGC GCCCTGACGG GCTTGTCTGC TCCCGGCATC CGCTTACAGA
CAAGCTGTGA CCGTCTCCGG GAGCTGCATG TGTACAGAGT TTTCAACCGTC ATCACCGAAA
CGCGCGAGAG ACGAAAGGCG CTCGTGATAC GCCTATTTTT ATAGGTTAAT GTCATGATAA
TAATGGTTTC TTAGACGTCA GGTGGCACTT TTCGGGGAAA TGTGCGCGGA ACCCCTATTT
GTTTATTTTT CTAAATACAT TCAAATATGT ATCCGCTCAT GAGACAATAA CCTGATAAA
TGCTTCAATA ATATTGAAAA AGGAAGAGTA TGAGTATTCA ACATTTCCGT GTCGCCCTTA
TTCCCTTTTT TCGGGCAATT TGCCTTCCTG TTTTGTCTCA CCCAGAAACG CTGGTGAAAG
TAAAAGATGC TGAAGATCAG TTGGGTGCAC GACTGGGTTA CATCGAACTG GATCTCAACA
GCGGTAAGAT CCTTGAGAGT TTTCGCCCCG AAGAACGTTT TCCAATGATG AGCACTTTTA
AAGTTCTGCT ATGTGGCGCG GTATTATCCC GTATTGACGC CGGGCAAGAG CAACTCGGTC
GCCGCATACA CTATTCTCAG AATGACTTGG TTGAGTACTC ACCAGTCACA GAAAAGCATC
TTACGGATGG CATGACAGTA AGAGAATTAT GCAGTGTCTGC CATAACCATG AGTGATAACA

Figure 13.5

CTGCGGCCAA CTTACTTCTG ACAACGATCG GAGGACCGAA GGAGCTAACC GCTTTTGTGC
ACAACATGGG GGATCATGTA ACTCGCCTTG ATCGTTGGGA ACCGGAGCTG AATGAAGCCA
TACCAAAACGA CGAGCGTGAC ACCACGATGC CTGTAGCAAT GSCAACAAACG TTGCGCAAAC
TATTAACCTGG CGAACTACTT ACTCTAGCTT CCCGGCAACA ATTAATAGAC TGGATGGAGG
CGGATAAAGT TGCAGGACCA CTTCCTGCGT CGGCCCTTCC GGCTGGCTGG TTTATTGCTG
ATAAATCTGG AGCCGGTGAG CGTGGGTCTC GCGGTATCAT TGCAGCACTG GGGCCAGATG
GTAAGCCCTC CCGTATCGTA GTTATCTACA CGACGGGGAG TCAGGCAACT ATGGATGAAC
GAAATAGACA GATCGCTGAG ATAGGTGCCT CACTGATTAA GCATTGGTAA CTGTCAGACC
AAGTTTACTC ATATATACTT TAGATTGATT TAAAACTTCA TTTTAAATT AAAAGGATCT
AGGTGAAGAT CCTTTTGTAT AATCTCATGA CCAAAATCCC TTAACGTGAG TTTTTCGTCC
ACTGAGCGTC AGACCCCGTA GAAAAGATCA AAGGATCTTC TTGAGATCCT TTTTTCCTGC
GCGTAATCTG CTGCTTGCAA ACAAAAAAAC CACCGCTACC AGCGGTGGTT TGTTTGCCGG
ATCAAGAGCT ACCAACTCTT TTTCGGAAGG TAACTGGCTT CAGCAGAGCG CAGATACCAA
ATACTGTTCT TCTAGTGTAG CCGTAGTTAG GCCACCACTT CAAGAACTCT GTAGCACCGC
CTACATACCT CGCTCTGCTA ATCCTGTAC CAGTGGCTGC TGCCAGTGGC GATAAGTCGT
GTCTTACCGG GTTGGACTCA AGACGATAGT TACCGGATAA GCGCCAGCGG TCGGGCTGAA
CGGGGGGTTT GTGCACACAG CCCAGCTTG AGCGAACGAC CTACACCGAA CTGAGATACC
TACAGCGTGA GCTATGAGAA AGCGCCACGC TTCCCGAAGG GAGAAAGGCG GACAGGTATC

Figure 13.6

CGGTAAGCGG CAGGGTCGGA ACAGGAGAGC GCACGAGGGA GCTTCCAGGG GGAACGCCT
GGTATCTTTA TAGTCCTGTC GGGTTTCGCC ACCTCTGACT TGAGCGTCGA TTTTGTGAT
GCTCGTCAGG GGGCGGAGC CTATGGAAAA ACGCCAGCAA CGCGGCCTTT TTACGGTTCC
TGGCCTTTTG CTGGCCTTTT GCTCACATGT TCTTTCCTGC GTTATCCCCT GATTCTGTGG
ATAACCGTAT TACCGCCTTT GAGTGAGCTG ATACCGCTCG CCGCAGCCGA ACGACCGAGC
GCAGCGAGTC AGTGAGCGAG GAAGCGGAG AGCGCCCAAT ACGCAAACCG CCTCTCCCCG
CGCGTTGGCC GATCATTAA TGCAGCTGGC ACGACAGGTT TCCCGACTGG AAAGCGGGCA
GTGAGCGCAA CGCAATTAAT GTGAGTTAGC TCACTCATTG GGCACCCCAG GCCTTTACT
TTATGCTTCC GGCTCGTATG TTGTGTGGAA TTGTGAGCGG ATAACAATTT CACACAGGAA
ACAGCTATGA CATGATTACG AATTAA

Figure 13.7

Figure 14. Plasmid SV40.IPD.Heterologous Polypeptide

6 <400>
60 TTCGAGCTCG CCCGACATTG ATTATTGACT AGAGTCGATC GACAGCTGTG GAATGTGTGT
120 CAGTTAGGGT GTGGAAGTC CCCAGGCTCC CCAGCAGGCA GAAGTATGCA AAGCATGCAAT
180 CTCAATTAGT CAGCAACCAG GTGTGGAAG TCCCCAGGCT CCCCAGCAGG CAGAAAGTATG
240 CAAAGCATGC ATCTCAATTA GTCAGCAACC ATAGTCCCGC CCTAACTCC GCCCATCCCG
300 CCCCTAACTC CGCCAGGTC CGCCCATCTT CCGCCCCATG GCTGACTAAT TTTTTTTATT
360 TATGCAGAGG CCGAGGCCCG CTCGGCCTCT GAGCTATTCC AGAAGTAGTG AGGAGGCTTT
420 TTTGAGGCC TAGGCTTTTG CAAAAGCTA GCTTATCCGG CCGGGAACGG TGCATTGGAA
480 CGCGGATTCC CCGTGCCAAG AGTGACGTAA GTACCGCCTA TAGAGCGACT AGTCCACCAT
540 GACCGAGTAC AAGCCACAGG TGCGCCTCGC CACCCGCGAC GAGTCCCGC GGGCCGTACG
600 CACCCTCGCC GCCGCGTTCT CCGACTACCC CGCCACGCGC CACACCGTAG ACCCGGACCG
660 CCACATCGAG CGGTCACCG AGCTGCAAGA ACTCTTCCTC ACGCGCGTCG GGCTCGACAT
720 CGGCAAGGTG TGGTCCGGG ACGACGGCGC CGCGGTGGCG GTCTGGACCA CGCCGGAGAG
780 CGTCGAAGCG GGGCGGTGT TCGCCGAGAT CGGCCCGCGC ATGGCCGAGT TGAGCGGTTC
840 CCGGCTGGCC GCGAGCAAC AGATGGAAG CCTCCTGGCG CCGCACCGGC CCAAGGAGCC
900 CGCGTGGTTC CTGGCCACCG TCGGCGTCTC GCCCGACCAC CAGGGCAAGG GTCTGGGCGAG

Figure 14.1

960 CGCCGTCGTG CTCCCCGGAG TGGAGGCGG CGAGCGCGCC GGGGTGCCCG CCTTCCTGGA
 1020 GACCTCCGCG CCCCGCAACC TCCCTTCTA CGAGCGGCTC GGCTTCACCG TCACCGCGCGA
 1080 CGTCGAGTGC CCGAAGGACC GCGCGACCTG GTGCATGACC CGCAAGCCCG GTGCCAACAT
 1140 GGTTCGACCA TTGAACTGCA TCGTCGCCGT GTCCCCAAAT ATGGGGATTG GCAAGAACGG
 1200 AGACCTACCC TGCCCTCCGC TCAGGAACGC GTTCAAGTAC TTCCAAAGAA TGACCACAAC
 1260 CTCTTCAGTG GAAGGTAAAC AGAATCTGGT GATTATGGGT AGGAAAACCT GGTTCCTCCAT
 1320 TCCTGAGAAG AATCGACCTT TAAAGGACAG AATTAATATA GTTCTCAGTA GAGAACTCAA
 1380 AGAACCAACCA CGAGGAGCTC ATTTCTTTC CAAAAGTTTG GATGATGCCT TAAGACTTAT
 1440 TGAACAACCG GAATTGGCAA GTAAAGTAGA CATGGTTTGG ATAGTCGGAG GCAGTTCTGT
 1500 TTACCAGGAA GCCATGAATC AACCAGGCCA CCTTAGACTC TTTGTGACAA GGATCATGCA
 1560 GGAATTGAA AGTGACACGT TTTTCCCAGA AATTGATTG GGGAAATATA AACCTCTCCC
 1620 AGAATACCCA GCGTCCTCT CTGAGGTCCA GGAGGAAAAA GGCATCAAGT ATAAGTTTGA
 1680 AGCTACGAG AAGAAAGACT AACGTAACT GCTCCCCTCC TAAAGCTATG CATTTTATA
 1740 AGACCATGGG ACTTTTCTG GCTTTAGATC CCCTTGGCTT CGTTAGAAG CAGCTACAAT
 1800 TAATACATAA CCTTATGTAT CATAACATA CGATTAGGT GACACTATAG ATAACATCCA
 1860 CTTTGCCTTT CTCTCCACAG GTGTCCACTC CCAGGTCCAA CTGCACCTCG GTTCTATCGA
 1920 TTGAATTCCA CC -Insert Sequence of Interest-
 CGATGGCC GCCATGGCCC AACTTGTTTA TTGCAGCTTA

Figure 14.2

TAATGGTTAC AATAAAGCA ATAGCATCAC AAATTTTACA AATAAAGCAT TTTTTCCTACT
GCATTCTAGT TGTGGTTTGT CCAAACCTCAT CAATGTATCT TATCATGTCT GGATCGGGAA
TTAATTCCGC GCAGCACCAT GGCCTGAAAT AACCTCTGAA AGAGGAACCTT GGTTAGGTAC
CTTCTGAGC GGAAGAACC AGCTGTGGAA TGTGTGTCTAG TTAGGGTGTG GAAAGTCCCC
AGGCTCCCCA GCAGGCAGAA GTATGCAAAG CATGCATCTC AATTAGTCAG CAACCAGGTG
TGGAAAGTCC CCAGGCTCCC CAGCAGGCAG AAGTATGCAA AGCATGCATC TCAATTAGTC
AGCAACCATA GTCCCGCCCC TAACTCCGCC CATCCCGCCC CTAACCTCCG CCAGTTCGCG
CCATTCTCG CCCCATGGCT GACTAATTTT TTTTATTAT GCAGAGGCCG AGGCCGCCCTC
GGCCTCTGAG CTATTCCAGA AGTAGTGAGG AGGCTTTTTT GGAGGAGCTT TTGCAAAAAG
CTAGCTTATC CGGCCGGGAA CGGTGCATTG GAAGCGGAT TCCCCGTGCC AAGAGTCAGG
TAAGTACCGC CTATAGAGTC TATAGGCCCA CCCCCTTGGC TTCGTTAGAA CGCGGCTACA
ATTAATACAT AACCTTTTGG ATCGATCCCTA CTGACACTGA CATCCACTTT TTCTTTTTCT
CCACAGGTGT CCACTCCCAG GTCCAACTGC ACCTCGGTTT GCGAAGCTAG CTTGGGGCTGC
ATCGATTGAA TTCCACC -Insert Sequence of Interest-
CGATGGCCGC CATGGCCCCA CTTGTTTATT GCAGCTTATA ATGGTTACAA ATAAAGCAAT
AGCATCACAA ATTTACAAA TAAAGCATTT TTTTCACTGC ATTCTAGTTG TGGTTTGTC
AAACTCATCA ATGTATCTTA TCATGTCTGG ATCGGGAATT AATTGCGGC AGCACCATGG
CCTGAAATAA GTTTAAACCC TCTGAAAGAG GAACTTGGTT AGGTACCGAC TAGTCTTTTG

Figure 14.3

CAAAAAGCTG TTACCTCGAG CGGCCGCTTA ATTAAGGCGC GCCATTTAAA TCCTGCAGGT
 AACAGCTGG CACTGGCCGT CGTTTTACAA CGTCGTAAT GGGAAAAACC TGGCGTTACC
 CAACTTAATC GCCTTGCAGC ACATCCCCCT TTCGCCAGCT GCGTAATAG CGAAGAGGCC
 CGCACCGATC GCCCTTCCCA ACAGTTGCGC AGCTGAATG GCGAATGGC CCTGATGCGG
 TATTTTCTCC TTACGCATCT GTGCGGTATT TCACACCGCA TACGTCAAAG CAACCATAGT
 ACGCGCCCTG TAGCGGCGCA TTAAGCGCGG CGGGTGTGGT GGTACGCGC AGCGTGACCG
 CTACACTGC CAGCGCCCTA GCGCCCGCTC CTTTCGCTTT CTCCCTTCC TTTCTCGCCA
 CGTTGCGCGG CTTTCCCGGT CAAGCTCTAA ATCGGGGCT CCCTTTAGGG TTCCGATTTA
 GTGCTTTACG GCACCTCGAC CCAAAAAAAC TTGATTGGG TGATGGTTCA CGTAGTGGC
 CATCGCCCTG ATAGACGGTT TTTCGCCCTT TGACGTGGA GTCCACGTTT TTTAATAGTG
 GACTCTTGTT CCAAACTGGA ACAACACTCA ACCCTATCTC GGGCTATTCT TTTGATTAT
 AAGGGATTTT GCCGATTTTCG GCCTATTGGT TAAAAAATGA GCTGATTAA CAAAAATTTA
 ACGCGAATTT TAACAAAATA TTAACGTTTA CAATTTTATG GTGCACTCTC AGTACAATCT
 GCTCTGATGC CGCATAGTTA AGCCAGCCCC GACACCCGCC AACACCCGCT GACGCGCCCT
 GACGGGCTTG TCTGCTCCCG GCATCCGCTT ACAGACAAGC TGTGACCGTC TCCGGGAGCT
 GCATGTGTCA GAGGTTTTCA CCGTCATCAC CGAAACGCGC GACGAAAGGG CCTCGTGATA
 CGCCTATTTT TATAGGTTAA TGTGATGATA ATAATGGTTT CTTAGACGTC AGGTGGCACT
 TTTCGGGGAA ATGTGCGCGG AACCCCTATT TGTTTATTTT TCTAAATACA TTCAAATATG

Figure 14.4

TATCCGCTCA TGAGACAATA ACCCTGATAA ATGCTTCAAT AATATTGAAA AAGGAAGAGT
ATGAGTATTC AACATTCCG TGTCGCCCTT ATTCCCTTTT TTGCGGCATT TTGCCTTTCCT
GTTTTTGCTC ACCCAGAAAC GCTGGTGAAA GTAAAAGATG CTGAAGATCA GTTGGGTGCA
CGAGTGGGTT ACATCGAACT GGATCTCAAC AGCGGTAAGA TCCTTGAGAG TTTTCGCCCC
GAAGAACGTT TTCCAATGAT GAGCACTTTT AAAGTTCTGC TATGTGGCGC GGTATTATCC
CGTATTGACG CCGGGCAAGA GCAACTCGGT CGCCGCATAC ACTATTCTCA GAATGACTTG
GTTGAGTACT CACCAGTCAC AGAAAAGCAT CTTACGGATG GCATGACAGT AAGAGAAATTA
TGCAGTGCTG CCATAACCAT GAGTGATAAC ACTGCGGCCA ACTTACTTCT GACAACGATC
GGAGGACCGA AGGAGCTAAC CGCTTTTTTG CACAACATGG GGGATCATGT AACTCGCCTT
GATCGTTGGG AACCGGAGCT GAATGAAGCC ATACCAAACG ACGAGCGTGA CACCACGATG
CCTGTAGCAA TGGCAACAAC GTTGCGCAAA CTATTAAGTG GCGAACTACT TACTCTAGCT
TCCCGGCAAC AATTAAATAGA CTGGATGGAG GCGGATAAAG TTGCAGGACC ACTTCTGCGC
TCGGCCCTTC CGGCTGGTG GTTTATTGCT GATAAATCTG GAGCCGGTGA GCGTGGGTCT
CGCGGTATCA TTGCAGCACT GGGGCCAGAT GGTAAGCCCT CCCGTATCGT AGTTATCTAC
ACGACGGGGA GTCAGGCAAC TATGGATGAA CGAAATAGAC AGATCGCTGA GATAGGTGCC
TCACTGATTA AGCATTGGTA ACTGTCAGAC CAAGTTTACT CATATATACT TTAGATTGAT
TTAAAACCTC ATTTTAAAT TAAAAGGATC TAGGTGAAGA TCCTTTTGA TAATCTCATG
ACCAAAATCC CTTAACGTGA GTTTTCGTTT CACTGAGCGT CAGACCCCGT AGAAAAGATC

Figure 14.5

AAAGGATCTT CTTGAGATCC TTTTTTCTG CCGGTAATCT GCTGCTTGCA AACAAAAAAA
CCACCGCTAC CAGCGGTGGT TTGTTTGCCG GATCAAGAGC TACCAACTCT TTTTCCGAAG
GTAAGTGGCT TCAGCAGAGC GCAGATACCA AATACTGTCC TTCTAGTGTA GCCGTAGTTA
GGCCACCACT TCAAGAACTC TGTAGCACCG CCTACATACC TCGCTCTGCT AATCCTGTTA
CCACTGGCTG CTGCCAGTGG CGATAAGTCG TGCTTTACCG GGTGGGACTC AAGACGATAG
TTACCCGATA AGGCGCAGCG GTCGGGCTGA ACGGGGGGTT CGTGACACACA GCCCAGCTTG
GAGCGAACGA CCTACACCGA ACTGAGATAC CTACAGCGTG AGCTATGAGA AAGCGCCACG
CTTCCCGAAG GGAGAAAGGC GGACAGGTAT CCGGTAAGCG GCAGGGTCGG AACAGGAGAG
CGCAGGAGG AGCTTCCAGG GGGAAACGCC TGATATCTTT ATAGTCCTGT CGGGTTTCGC
CACCTCTGAC TTGAGCGTCG ATTTTGTGA TGCTCGTCAG GGGGGCGGAG CCTATGGAAA
AAGGCCAGCA ACGCGGCCTT TTTACGGTTC CTGGCCTTTT GCTGGCCTTT TGCTCACATG
TTCTTTCCTG CGTTATCCCC TGATTCTGTG GATAACCGTA TTACCGCCTT TGAGTGAGCT
GATACCGCTC GCGGCAGCCG AACGACCGAG CGCAGCGAGT CAGTGAGCGA GGAAGCGGAA
GAGCGCCCAA TAGCCAAACC GCCTCTCCCC GCGCGTTGGC CGATTCAATTA ATGCAGCTGG
CACGACAGGT TTCCCGACTG GAAAGCGGGC AGTGAGCGCA ACGCAATTAA TGTGAGTTAG
CTCACTCATT AGGCACCCCA GGCTTTACAC TTTATGCTTC CGGCTCGTAT GTTGTGTGGA
ATTGTGAGCG GATAACAATT TCACACAGGA AACAGCTATG ACATGATTAC GAATTAA

Figure 14.6

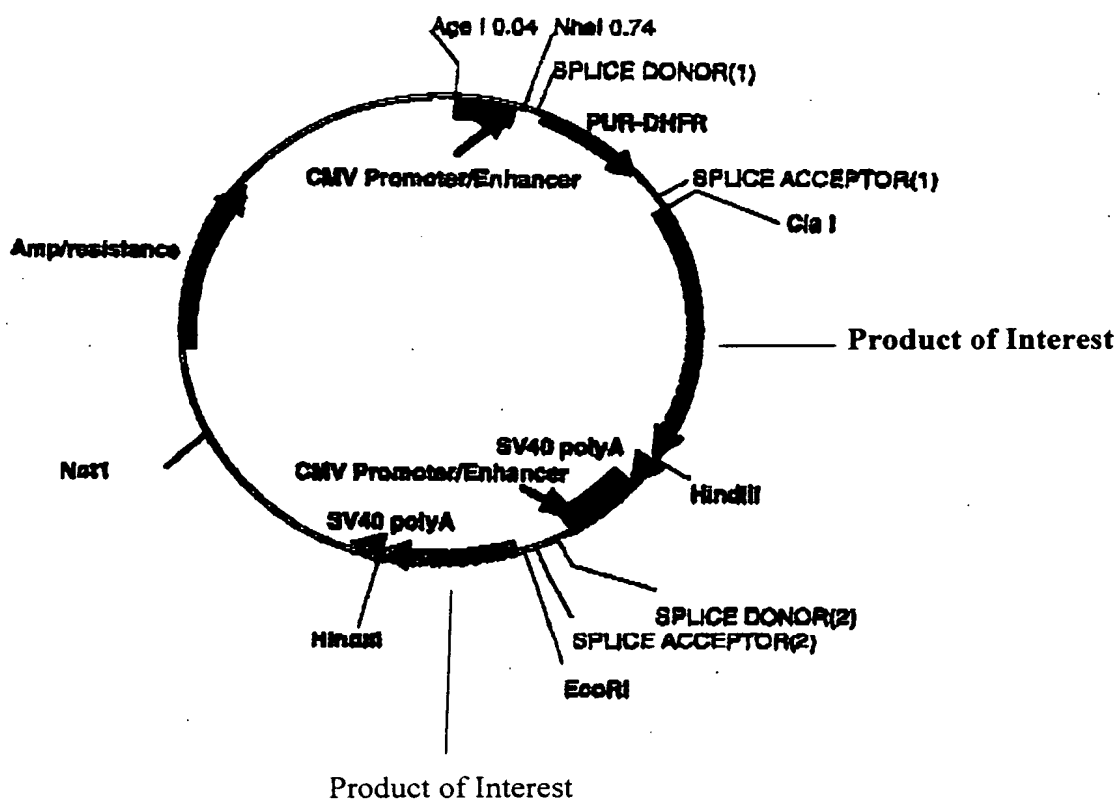


Figure 15. pCMV.IPD.HP

Timeline and Titer Comparison

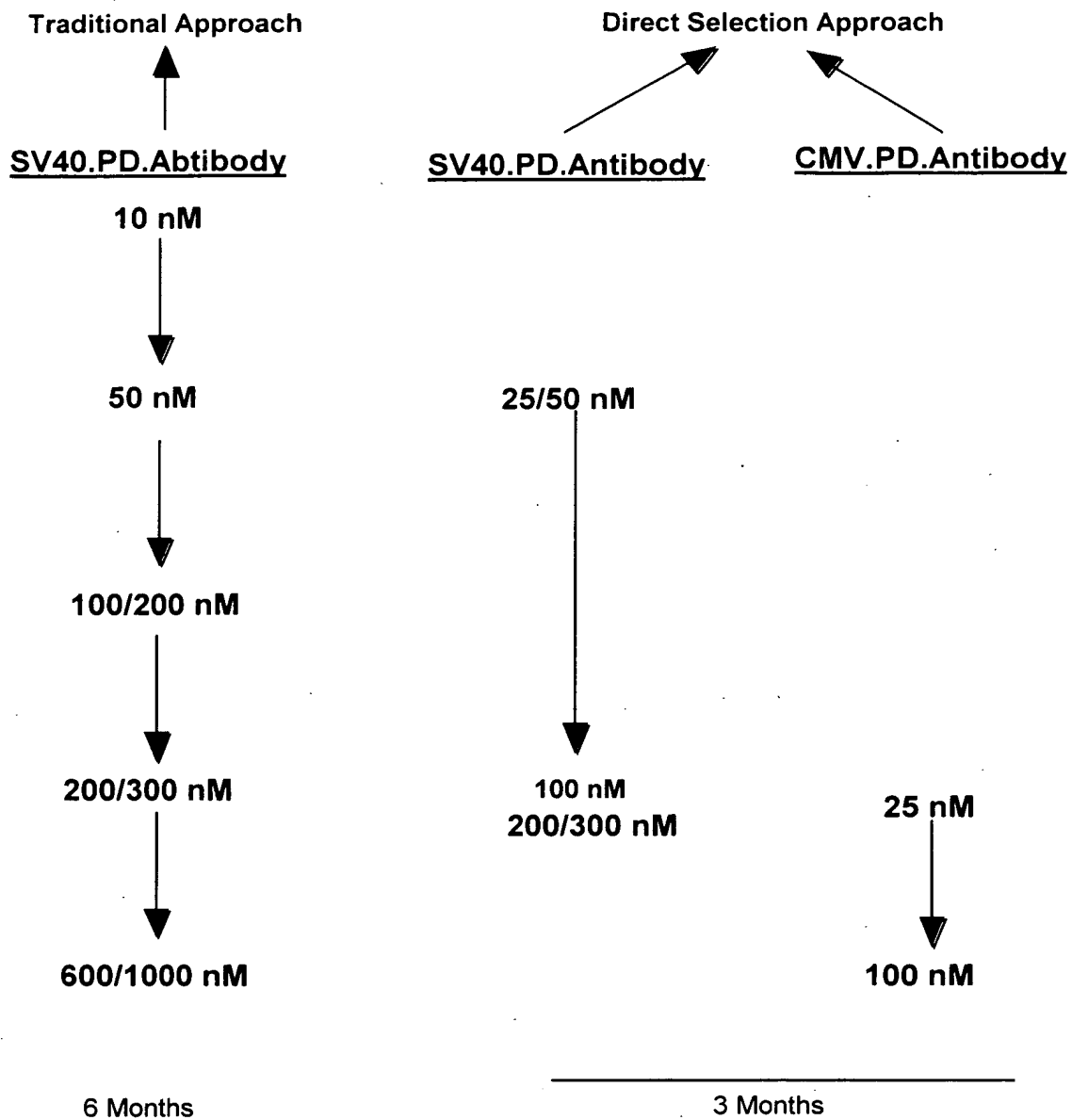


Figure 16. Timeline and Titer Comparison.